Gap Analysis and
Comprehensive Scoping Assessment
Michigan State Forest Program

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Introduction

The Michigan Department of Natural Resources (MI DNR) requires detailed information about the feasibility and costs of achieving third-party certification of its State Forest System. Certification of forest management programs by independent third parties has become increasingly common world-wide for a variety of reasons. Within the region major paper manufacturers are encouraging landowners to consider certification in response to pressure from paper buyers, notably Time Inc, the world's largest buyer of paper.[1] Certification provides assurance to customers, managers, landowners, and the general public that objective standards are being met in the management of forests. Certification also helps land managers understand how their programs and practices compare with other organizations and helps these managers improve their forestry and conservation practices.

To further its understanding of certification, the MI DNR issued a request for proposals to conduct feasibility studies (also referred to as scoping assessments or preliminary evaluations) of Michigan's State Forest Program relative to the principles and criteria of the Forest Stewardship Council (FSC) and the Sustainable Forestry Initiative® (SFI) certification programs.

NSF International Strategic Registrations (NSF) of Ann Arbor, Michigan and Scientific Certification Systems (SCS) of Oakland, California provided a joint proposal in response to MI DNR's request. MI DNR awarded a contract, and the two firms began work in September, 2004. This report summarizes the findings of the SFI portion of this joint FSC – SFI Gap Analysis and Readiness Review.

Format used to address assessment issues

MI DNR agreed to a joint FSC – SFI scoping or preliminary evaluation using a single three-person audit team and a coordinated auditing protocol. The review was conducted by a three-person audit team as follows:

- SFI Lead Auditor Mike Ferrucci, NSF-ISR
- FSC Lead Auditor Robert Hrubes, SCS
- Dave Capen, Team Member

Additional information on these team members is provided in Appendix A.

The purpose of a preliminary certification evaluation is to provide a forestland owner with early and strategic insight as to their preparedness to achieve FSC or SFI endorsed

[1] TI Paperco Inc., which buys paper for all of Time's 135 magazines and other uses, has announced procurement guidelines which give preference to paper containing specified content produced from forests that have been sustainably managed. In November the company announced its decision to increase its purchases of paper from suppliers based in Maine due to the state's commitment to certification (see Appendix E OR http://www.nlcomposer.com/publishers/mainewoodsman/newsletters/Newsletter-60.htm).

certification, were a full evaluation to be carried out. A preliminary evaluation constitutes a "gap analysis" with which forestland owners and managers are better able to identify aspects of their management program that may be deficient and, thus, serve as obstacles to achieving certification.

During the scoping evaluation, the SCS/NSF-ISR team assessed Michigan DNR's level of conformance with the requirements of certification; that is, the FSC Lake States Standard and the known 2005-2009 Edition Revisions of the Sustainable Forestry Initiative® Standard with. The goals of the assessment were to identify likely areas of conformance and non-conformance with the standards. Additionally, when areas of non-conformance are identified, a detailed description of that deficiency is provided. The assessment included a review of Michigan DNR's management systems and a sample-based audit of field conditions.

The SCS/NSF-ISR scoping assessment included the following tasks/steps:

- A – Audit Planning, Document Request & Review
- B – Office Review and Field Assessment of Michigan State Forests
- C – Report Preparation and Revisions
- D – Presentation of Findings to FMFMD
- E – Delivery of Work Plan, Schedule, Costs for Full Certification Audits

Characteristics of the Joint SFI/FSC Audit Approach

- Unified audit team: A single 3-person audit team conducted both audits. This team includes an FSC-Qualified Lead Auditor an SFI-Qualified Lead Auditor, and a wildlife and biodiversity specialist.

- Coordinated Document Request: The process began with a unified document and information request for background information on the Michigan State Forest Program.

- Joint Audit Planning: SCS and NSF-ISR combined their audit planning activities.

- Integrated Opening Meeting and Daily Meetings: structured opening and closing meetings were held to ensure that all parties had clear guidance and were fully prepared for the daily auditing activities.

- Overlapping Use of Audit Evidence: Many aspects of the SFI and FSC requirements are quite similar. The SFI process provides an excellent framework for organizing evidence and ensuring that evidence assembled for the SFI can be readily utilized during the FSC review. Likewise, under the FSC protocol discussions about forest management activities are both free-ranging and detailed, providing additional evidence that is useful for SFI.

- Separate Final Report: The reporting processes are quite different, with limited overlap. We will have three interrelated report sections that can be linked in a single product or kept separate at the discretion of the Division of Forestry.

- Presentation of Results: The team leaders will return to Michigan to present the results of the evaluations.

Potential Benefits from Certification

Some benefits of certification, mentioned in the Introduction above, include:

- Marketplace acceptance: Some customers of paper and solid wood products prefer certified wood. While there are limited instances of certified wood receiving a price premium, there are a steadily increasing number of buyers which provide preferred supplier status to certified forest products producers. Many major wood retailers have announced policies of procuring wood in ways that protect and maintain forests, and certification provides a check that this is happening.

- Assurance to external parties: A wide variety of stakeholders have an interest in the management of State forest lands. The most important of these are the citizens of the state and their elected representatives. Loggers who work on the land and mills, which are dependent on the forests for part of their future wood supply, also have a strong interest in the management of these lands. Certification is one way to assure all of these groups that the lands are being managed well and that all of the important benefits of the forest can be sustained. Landowners, particularly public agencies, often cite public support for forestry operations as a direct benefit from certification.

- Improved operations and procedures: Certification teams and certification standards represent proven expertise for a standardized, replicable external review of State forestry operations and procedures. All complex programs can benefit from a fresh perspective and informed expert opinion, and certification programs are designed to seek areas where improvements can be made. Certification, in fact, requires managers to carefully assess their own programs and to commit to continuous improvement.

Our experience with joint FSC-SFI certifications (Maine, Maryland, Wisconsin, and Connecticut) have shown that the audit is more thorough, comprehensive, robust, and more widely accepted when both protocols are jointly and rigorously applied.

SFI Gap Analysis Process

The NSF approach to this gap-analysis project involved using procedures associated with the On-site Readiness Review stage of its SFI Program (available upon request from NSF-ISR). This protocol involves review of available objective evidence of all relevant SFI Program Objectives, Performance Measures, and Indicators. These are provided in Appendix B.

(Note: The audit team was faced with an evolving SFI Standard®, as the final edits to the 2005-2009 Edition were being made at the same time that the evaluation was taking place. At the time of the analysis the most up-to-date version of the 2005-2009 SFI

Standard® available was "SFISDraft3 Oct 15". This version was used in the analysis and is used in the matrix in Appendix D. Slight differences exist between these versions.)

Categories of SFI Findings in a Gap-analysis

There are several different types of findings (presented in Appendix D), in terms of the level of significance for reaching a certification decision:

- Exceeds the Standard: These are areas where the MI DNR program is expected to be found to exceed the 2005-2009 SFI Standard® upon completion of the full assessment.
- Opportunities for Improvement (OFI): In the NSF-ISR system these findings do not indicate a current deficiency, but serve to alert your organization to potential future deficiencies. At this stage in the process most of the OFIs can be considered as potential future focus areas for continual improvement efforts.

- Gaps are designated at the Performance Measure and at the Indicator Level: These indicate either deficiencies in overall programs or in implementation at specific field sites or units visited. Gaps at the Indicator Level must be addressed, as conformance must be demonstrated for all relevant SFI Indicators and Performance Measures.

The audit team reviewed sufficient evidence to make these preliminary judgments, but different findings are possible when a more complete review is conducted.

Gaps identified under the present review may or may not be found to comprise Minor Non-conformances during a subsequent formal certification effort. Minor Non-conformances are isolated audit findings that do not preclude the Program Participant from meeting Objectives or Program Managers. If a Minor Non-conformance is found during the full assessment Michigan's FMFM Division would be expected to provide a corrective action plan that met the approval of the lead auditor. The plan would identify steps to be taken and a time period for satisfactory resolution of the non-conformance(s). Thus, there can be some isolated deviation from the SFI Program requirements provided that the SFI Principles, Objectives, Performance Measures, and Indicators are met.

SFI Audit Findings

Summary of Findings

Based on the sample of unit and regional offices and sites visited (See Appendix C) and on interviews and review of documents the Michigan State Forest Lands will require some important efforts to filling identified gaps before proceeding to a full certification review against the 2005-2009 Sustainable Forestry Initiative Standard®.

The gaps identified by the scoping team generally fall into several broad categories:

- Planning Issues
- Best Management Practices
- Biodiversity Issues
- Training Systems

- SIC and other SFI-tasks
- Management Review

Planning Issues: Gaps were found regarding SFIS requirements involving long-term planning at scales larger than compartments. Clarification of planned and actual harvest levels is also needed.

Best Management Practices: Gaps were found regarding monitoring of BMP implementation, use of BMPs for roads, and in the protection of wetlands and other areas from damage from Off-Road Vehicles (ORVs).

Biodiversity Issues: Gaps were found in planning at larger spatial scales, including assessing the representation of cover types and habitats and effectively using that information in planning.

Training Systems: Gaps were found in systems for determining training needs and tracking training for staff and contractors.

SIC and other SFI-tasks: Gaps were found regarding the assignment of SFI responsibilities, significant involvement in the Michigan State Implementation Committee (SIC) and in technical areas involving reporting requirements under the SFI Program.

Management Review: Gaps were found in the management review system involving systematic gathering of information about SFI-related programs, reporting of that information to management, and formal management review.

The team also identified three Opportunities for Improvement (OFI). These are listed in the SFIS Gap Analysis Matrix (Appendix D). These findings generally relate to the identified gaps, but involve issues that are not likely to be rated as non-conformances. MI DNR may choose whether or not to address these issues in advance of the full certification. OFIs are intended to focus attention on areas that could possibly become deficiencies, and that can be the focus of continuous improvement.

In addition, the audit team feels that a full certification review would likely find that the SFI standard was exceeded in the following areas:

- Forest protection programs with particular emphasis on maintaining healthy stands and on a range of fire protection programs and strategies (training, research, outreach, preparedness);
- Managing the visual impact of harvesting and other forest operations, including good utilization practices;
- The identification and management of special sites, including lands of ecologic, geologic, cultural or historic significance;
- Providing funding for and participating in research;
- Provision of recreation opportunities for the public; and
- Public outreach and involvement activities for state and private land management.

The program would need to proceed through full, formal SFI certification to confirm these areas of possibly exceeding the SFI Standard.

Although the NSF gap analysis protocol is not designed to predict certification results, on-the ground activities appear very close to meeting the requirements for certification. Most gaps may not significantly impact practices at the field level, depending on how MI DNR chooses to fill the gaps.

Detailed Findings

Detailed findings are provided in the audit matrix (Appendix D). In the table, audit findings are provided by individual SFI Indicator and Performance Measure. For each of these finer levels of detail, there are notes regarding our observations that generally serve to identify the types of evidence the team considered or how MI DNR procedures align with the requirements. There are columns for Gap, OFI, Exceeds the Standard or Full Conformance. For each Core Indicator and Performance measure an "X" mark indicates the team's assessment of the program's status compared to the requirements of the 2005-2009 SFI Standard®.

Table 1
Summary Of SFI Gaps By Objective

Objective 1 Sustainable Forestry Practices
Long-term plans, sustainable harvest levels compared to planned levels
Objective 2 Productivity and Conservation, BMPs, Chemicals
Regeneration, minimized chemical use, woody debris,
Objective 3 Water Quality
BMPs for roads, acceptable rutting, monitoring of BMPs, protection of wetlands
Objective 4 Wildlife
Landscape level planning, representation of cover types
Objective 5 Visual
Possibly exceed the standard in Objective 5 (formal certification needed to confirm)
Objective 6 Special Sites
Probably exceed the standard in Objective 6 (formal certification needed to confirm)
Objective 7 Utilization
Probably exceed the standard in Objective 6 (formal certification needed to confirm)
Objective 8 Procurement programs broaden the practice of sustainable forestry
Not applicable to Michigan State Forests
Objective 9 Public participation and reporting
SFI specific reporting
Objective 10 Compliance with Laws and Regulations
SFIS commitment, roles and responsibilities, training system for staff and contractors
Objective 11 Improve the practice of sustainable forest management by resource professionals, logging professionals, and contractors
SIC involvement
Objective 12 Support for forestry research, science and technology
SIC involvement, SFI annual surveys, system for public complaints
Objective 13 Management Review
Management review systems, both general and specific to SFI Program and commitments

Work Plan, Schedule, Costs for Full Certification Audits

The following assumes a joint FSC-SFI Certification Review process. The proposal submitted by NSF provides details on costs of the full certification review, annual surveillance audits, and recertification. Some of this information will be provided below, with additional detail regarding audit scheduling. Costs for annual audits and the mandatory recertification have been revised slightly to reflect changes in the 2005-2009 SFI Standard®.

The SFI audit protocol used by NSF provides flexibility in cases when an NSF team has conducted a gap analysis. A four step process is used:

1. Off-site document review/readiness review;
2. Finalization of an audit plan;
3. Certification Audit; and
4. Reporting

The entire audit process will be completed over a two to three-month period, commencing in the late summer or fall of 2005, as determined by the MI DNR Certification Team. All work will be closely coordinated with the FSC Assessment, including joint planning, preparation, and field reviews. Field audit visits (step 3) are jointly conducted with SCS and will occur during a two-week period. Details are provided in the tables which follow. Reporting will be separate, as it was with the current scoping project.

Week One

Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
Opening Meeting Interviews with DNR Forestry Staff, State specialists, and stakeholders	*Cadillac OSC* Field Inspection: Cadillac Unit	Field Inspection: Gladwin Unit	*Roscommon OSC* Field Inspection: Gaylord Unit	Field Inspection: Atlanta Unit	Field Inspection: Pigeon River Unit

Week Two

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday *
Review and Synthesis of week one auditing (audit team only)	*Baraga OSC* Field Inspection: Baraga Unit	Field Inspection: Gwinn Unit	*Newberry OSC* Field Inspection: Sault Ste. Marie Unit	• Additional interviews/ consultation • FSC & SFI synthesis and scoring	• Preparation for closing meeting • Closing meeting • Audit team travel home

*** Note: mid-day departure of audit team on final day of audit.**

Other Audit Planning Issues:

- The audit team will start in Lansing, finish in the UP (likely Newberry OSC);
- All units not visited during the scoping will be visited during full assessment. Repeat visits are planned for the Gladwin and Gaylord units;
- The audit team will visit all four districts, and one OSC per district:
  Western Lower Peninsula District: 2 days
  Eastern Lower Peninsula District: 3 days
  Western Upper Peninsula District: 2 days
  Eastern Upper Peninsula District: 1 day (note 3 field days focused in the ELPD during the scoping stage, the largest sample of any district);
- Team members will be in the same district at the same time, but likely break into smaller teams for visits within the units;
- At times one or more team members will drop out of field visits and conduct stakeholder or other outside interviews –office space with phones will be needed;
- Team members will generally lodge in the same motel each evening to facilitate discussion and analysis; and
- The audit team would like to explore the possibility of having open-forum stakeholder meeting one or more evenings.

Costs to Undergo Joint SFI and FSC Third-party Certification

These costs were provided in the proposal submitted by NSF-ISR and have not changed.

Maintaining the SFI Certification

Various fees are required to maintain participation in the SFI Program. The annual payment to AF&PA to maintain Program Participant status is $500 (prorated the first year). The Michigan State Implementation Committee (SIC) also charges a fee to all SFI Program Participants.

Under the soon to be finalized SFI Verification/Certification Principles and Procedures (SFI-V/CPP) there is a requirement for periodic surveillance audits to help ensure the maintenance of the SFI Program and management system. The annual surveillance audit would require a three-day visit by two team leaders, likely the same lead auditors who conducted the certification.

For SFI, the document SFI Verification/Certification Principles and Procedures (SFI-V/CPP) dictates the reverification schedule. Under the new 2005-2009 SFI Standard® requirements the initial reverification shall occur within five years of the date of the verification and shall occur at least every five years thereafter.

Cost estimates provided at the time of the initial proposal require slight revision due to changes in the SFI standards (2005-2009 Edition), including:

- the need for annual surveillance audits under SFI (the proposal assumed that optional audits would be desirable, but not at the full level now required); and
- the change for recertification under SFI to 5 years following initial certification, not 3 years.

The original breakdown of costs for the five year period is as follows:

	Audit Days	Travel Days	Travel Expense	Total Costs
1 year after certification	11	0	$ 2,800	$ 15,000
2 years after certification	11	0	$ 2,800	$ 15,000
3 years after certification	34	4	$ 5,600	$ 44,150
4 years after certification	11	0	$ 2,800	$ 15,000
5 years after certification	44	3	$ 5,500	$ 54,700

Revised estimate of costs for the five year period:

	Audit Days	Travel Days	Travel Expense	Total Costs
1 year after certification	12	0	$ 2,800	$ 16,000
2 years after certification	12	0	$ 2,800	$ 16,000
3 years after certification	12	0	$ 2,800	$ 16,000
4 years after certification	12	0	$ 2,800	$ 16,000
5 years after certification	67	4	$ 8,000	$ 82,700

The above do not include the FSC Annual Accreditation Administration Fee of $0.004 per hectare for managed forests and $0.0001 per hectare for Forest Conservation Areas, nor the SFI Annual Fees paid to AF&PA and to the Michigan State Implementation Committee (SIC).

Conclusions and Next Steps

Third-party certification of the State Forest System would assure all of Michigan's citizens that these lands are being managed under the principles of sustainable forestry. The SFI portion of the gap assessment has shown that the existing State Forest System meets the vast majority of SFI requirements. Several specific gaps were identified, generally involving policies and record-keeping. Many of the identified gaps involve putting an SFI program into place, generally on the solid foundation of the existing State forest management programs. Once the identified gaps are filled a certification review can be arranged and certification could be achieved in less than three months time.

Next Steps

As part of the gap-analysis proposal the final phase is a presentation of results by an audit team member. Mike Ferrucci of NSF will present the SFIS Gap Analysis Report to the Michigan on December 16, 2004 in conjunction with a presentation of FSC Gaps by Robert Hrubes of SCS.

During or shortly after the presentation dates will be selected for the field phase (2 weeks) of the full certification audits.

Appendices

Appendix A: Audit Team

Appendix B: 2005-2009 SFI Standard® Objectives

Appendix C: State Forest Assessment Itinerary & Audit Plan for Field Sites

Appendix D: SFIS Gap Analysis Matrix

Appendix E: Opening and Closing Meeting Sign-in Sheets

Appendix A: Audit Team

NSF-ISR Lead Auditor Mike Ferrucci

Mike Ferrucci is the SFI Program Manager for NSF – International Strategic Registrations and is responsible for all aspects of the firm's SFI Certification programs. Mike has led Sustainable Forest Initiative (SFI) certification and precertification reviews throughout the United States. He has also led joint SFI and Forest Stewardship Council (FSC) certifications in Wisconsin, Maryland, Maine and Connecticut and scoping or precertification gap-analysis project throughout the United States. He is qualified as a RAB EMS Lead Auditor (ISO 14001 Environmental Management Systems), as a SFI Lead Auditor, as a FSC Team Leader, and as a Tree Farm Group Certification Lead Auditor.

Mike has conducted or participated in assessments of forest management operations throughout the United States, with field experience in Maine, New Hampshire, New York, Massachusetts, Connecticut, New Jersey, Maryland, West Virginia, Tennessee, Minnesota, Wisconsin, Michigan, Arizona, California, Oregon, and Washington. Mike is a 26-year member of the Society of American Foresters. He is also active in the Association of Consulting Foresters and the Connecticut, Massachusetts, and Rhode Island SIC for the Sustainable Forestry Initiative.

Mike has 26 years of forest management experience. His expertise is in sustainable forest management planning; in certification and verification of forests as sustainably managed; in the application of easements for large-scale working forests, and in the ecology, silviculture, and management of mixed species forests, with an emphasis on regeneration and management of native hardwood species.

Mike is a founding partner and President of Interforest, LLC where he is responsible for the assembly and management of integrated teams of scientists and professional managers to solve complex forestry problems. Mike is also a Lecturer at the Yale School of Forestry and Environmental Studies, where he teaches courses and workshops in forest management, operations, professional forest ethics, private forestry, and financial analysis to graduate students.

SCS Lead Auditor Robert Hrubes

Robert Hrubes is Senior Vice-President of Scientific Certification Systems. In that capacity, Dr. Hrubes is responsible for all natural resource and recycled content certification activities of the company. While providing senior leadership of these programs, Dr. Hrubes remains an active certification practitioner. He continues to lead certification evaluation teams throughout the world as well as represent both SCS and FSC and numerous public fora. He is internationally recognized as a leading authority and practitioner of third-party forest management certification.

Prior to assuming his present duties at SCS in 2000, Dr. Hrubes owned and managed, for 6 years, a forestry and natural resource economics consultancy based in northern California. During those years, he served on the founding Board of Directors of the

Forest Stewardship Council. Additionally, he served as the founding Chair, Board of Directors of the Forest Stewards Guild, a U.S.-based professional society of progressively minded practicing foresters. Previous to the creation of his own consultancy, Dr. Hrubes was for 6 years a managing principal of LSA Associates, Inc., a California-based environmental consulting firm. And prior to that, Dr. Hrubes was employed by 14 years by the USDA Forest Service in a variety of positions from field forester to research economist, operations research analyst and acting Group Leader for Land Management Planning.

Dr. Hrubes holds the following degrees:

Ph.D., Forest Economics, UC-Berkeley
M.A., Economics, UC-Berkeley
M.S., Resource Systems Management, Univ. of Michigan, Ann Arbor
B.S., Forest Management, Iowa State University, Ames

Dr. David Capen, Team Member, Wildlife Biology and Ecology

Dr. David Capen is Research Professor, Rubenstein School of Environment and Natural Resources, University of Vermont. He is a Certified Wildlife Biologist and a Certified Forester. He is an expert in Wildlife Habitat Analysis, Avian Ecology, Landscape Ecology, Biodiversity Analysis, GIS and Remote Sensing, Multivariate Statistics, and Conservation Planning and Reserve Design.

He holds the following degrees:

University of Tennessee, B.S.F., 1969 (Forestry)
University of Maine, M.S., 1972 (Wildlife Management)
Utah State University, Ph.D., 1977 (Wildlife Science)

Dr. Capen has participated in a variety of forest certification projects, including SFI and FSC projects on state lands. His certification projects include the following:

SFI Forest Certification, Audit Team, State of Maine, for NSF-ISR
FSC Forest Certification, Audit Team, State of Massachusetts, for SCS
SFI Forest Certification, Audit Team, Harden Furniture, for NSF-ISR
SFI Forest Certification, Audit Team, Finch-Pryne Co., NY, for The Plum Line
SFI Forest Certification, Audit Team, Seven Islands Land Co., Maine, for The Plum Line
FSC Forest Certification, Peer reviewer, Maine Bureau of Public Lands, for Scientific Certification Systems (SCS)
FSC Forest Certification, Peer reviewer, Yale-Meyers Forest, Conn., for SCS

Jodi J. Kaiser, Team Member, Forestry and Wildlife

Ms. Jodi Kaiser brings the strengths of a diversified background having education and experience in both forestry and wildlife management in the state of Michigan. As executive Director of Michigan Forest Resource Alliance, Jodi demonstrated her familiarity with requirements of the State of Michigan and helped promote public awareness through education and public forums. Ms. Kaiser's was able to articulate her knowledge of the Michigan United Conservation Clubs through her role as Forestry Policy Specialist.

Ms. Kaiser holds the following Degrees:

Michigan Technological University (Houghton, MI) 1990-1994

- Bachelor of Science in Forestry 5/94- Cum Laude
- Master of Science in Forestry 5/94 (Wildlife Management emphasis)

Ms. Kaiser's experience summary follows:

Kaiser Forest Resource Management St. Ignace, MI , Forestry & Wildlife Consultant

- Timber marking, cruising and marketing of forest products.
- Stewardship Plan writer and Timber Tax depletion reports

Michigan Forest Resource Alliance Crystal Falls, MI Executive Director

- Initiated a strategic planning process for non-profit forestry education organization-led to merge of organization with another organization.
- Bid out contract for deliverance of Michigan Forests Forever Curriculum and training workshops.
- Hosted MFRA booth at the ten day Outdoorama Show, featuring forestry commercials, videos, educators kits, forestry and wildlife pamphlets.

Michigan United Conservation Clubs Lansing, MI Forest Policy Specialist/Northern Field Rep.

- Advocate for conservation perspective on forest management issues relating to Federal, State, Industrial and Private lands.
- Testified before legislative committees, Forest Service hearings, and public forums regarding the multiple use and professional management of forest resources. Commented on many forest service, DNR and industry initiatives and projects.
- Worked with the Michigan Forest Resource Alliance on several educational and special projects.
- Worked towards coordination and cooperation among organizations and agencies.

Rothig Forest Products, Inc. Luther, MI Procurement Forester

- Procure federal, state and private stumpage for two CTL crews, a grade log crew and whole-tree chipping crew
- Work with private landowners and special education projects such as a Red Pine Demonstration Forest with the Irons Area Tourist Association.

Appendix B: 2005–2009 Edition Sustainable Forestry Initiative (SFI) Standard ®

The Sustainable Forestry Initiative Program

(Source: Draft 3- 2005-2009 SFIS, November 16, 2004: as of 12.13.04 this is the most current version of SFIS available)

Principles of Sustainable Forestry

1. Sustainable Forestry
2. Responsible Practices
3. Reforestation and Productive Capacity
4. Forest Health and Productivity
5. Long-term Forest and Soil Productivity
6. Protection of Water Resources
7. Protection of Special Sites and Biological Diversity
8. Legal Compliance
9. Continual Improvement

Land Management

Objective 1
Objective 2
Objective 3
Objective 4
Objective 5
Objective 6
Objective 7

Procurement

Objective 8

Forestry Research, Science, and Technology

Objective 9

Training and Education

Objective 10

Legal and Regulatory Compliance

Objective 11

Public and Landowner Involvement in the Practice of Sustainable Forestry

Objective 12

Management Review and Continual Improvement

Objective 13

Sustainable Forestry Initiative® Standard (SFIS)

Sustainable Forestry Initiative Program
A reference document, "Sustainable Forestry Initiative® Program: Overview, Governance, Guidance, and Historical Information," contains additional information about the SFI Program and is available at www.aboutsfb.org.

Principles for Sustainable Forestry
Managed forests make a vital contribution to the world by providing economic, environmental, and social benefits indispensable to the quality of life. Accomplishing *sustainable forestry*, especially on private lands, requires a partnership among landowners, wood producers, contractors, and the companies that purchase wood. Sustainably managed forests provide many benefits to society: employment for hundreds of thousands of workers, a viable tax base that supports thousands of communities, essential building and paper products, and numerous recreational opportunities. A commitment to provide these social benefits extends to promoting human health and safety; providing employee training and education; protecting air and water quality, soil, and *wildlife;* protecting unique resources; and communicating the benefits of the practice of *sustainable forestry* to the general public. The SFI Standard reflects this commitment to social responsibility through a set of *principles*, *objectives*, *performance measures*, and *indicators*.

Program Participants must comply with all portions of the SFI Standard relevant to their operations, taking into account their local conditions and circumstances and the scope and scale of their operations. In addition, the SFI Standard requires *Program Participants* to take their commitment to responsible stewardship beyond the bounds of their own lands and operations by encouraging others to adopt the *principles* and *objectives* of the SFI Standard. *Program Participants* are required to work with their suppliers to make sure they are meeting *program* goals for *best management practices*. And *Program Participants* are required to invest in research to enhance the practice of *sustainable forestry*, add to scientific knowledge, improve *forestry* practices, and increase the overall *productivity* of forests.

The SFI Standard applies to the United States and Canada, where *Program Participants* must comply with numerous federal, provincial, state, and local laws that protect the environment, their workers, and those who live in the communities in which they operate. Such laws include hundreds of thousands of rules that cover a broad range of issues. Just some of the applicable federal, state, provincial, or local forestry-related environmental laws and regulations found in the United States and Canada include the Clean Water Act, Endangered Species Act, Species at Risk Act, and state or provincial forest practice laws. The social laws of the United States and Canada cover civil rights, equal employment opportunities, antidiscrimination and antiharassment measures, workers' compensation, indigenous peoples' rights, workers' and communities' right to know, wages and working hours, and occupational health and safety. Antitrust, business competition, and other laws in the United States and Canada outline business procedures that must be followed. The SFI Program does not try to duplicate *sustainable forestry* processes that are already mandatory in the United States and Canada. Both countries have mature legal systems that consistently discourage and punish illegal behavior. Given the wide range of due

process and compliance mechanisms that ensure conformance with applicable laws, the SFI Standard purposefully focuses on continual improvement of the practice of *sustainable forestry*, forest *productivity*, and environmental performance processes that complement the existing legal framework.

In the United States and Canada, family forestland owners play a significant role in supplying wood fiber to the wood products industry. In the United States, more than 10 million such owners account for 60% of the forestland and more than 50% of the raw materials used by *Program Participants.* The percentage of family forestland owners in Canada is smaller, but in some areas these owners provide a large share of the raw materials used by *Program Participants.* These family forestland owners need stable and predictable laws, standards, and business practices.

Program Participants both support *sustainable forestry* practices on forestland they manage and promote it on other lands. Moreover, *Program Participants* support efforts to protect private property rights and the ability of all private landowners to manage their forestland sustainably. This support stems from *Program Participants'* belief that forest landowners have an important stewardship responsibility and a commitment to society, and they recognize the importance of maintaining viable commercial, family forest, and *conservation* forestland bases.

In keeping with this responsibility, *Program Participants* shall have a written *policy* (or *policies)* to implement and achieve the following *principles*:

1. Sustainable Forestry
To practice *sustainable forestry* to meet the needs of the present without compromising the ability of future generations to meet their own needs by practicing a land stewardship ethic that integrates *reforestation* and the managing, growing, nurturing, and harvesting of trees for useful products with the *conservation* of soil, air and water quality, *biological diversity*, *wildlife* and *aquatic habitat*, recreation, and aesthetics.

2. Responsible Practices
To use and to promote among other forest landowners *sustainable forestry* practices that are both scientifically credible and economically, environmentally, and socially responsible.

3. Reforestation and Productive Capacity
To provide for regeneration after harvest and maintain the productive capacity of the forestland base.

4. Forest Health and Productivity
To protect forests from uncharacteristic and economically or environmentally undesirable wildfire, pests, diseases, and other damaging agents and thus maintain and improve long-term *forest health* and *productivity.*

5. Long-Term Forest and Soil Productivity
To protect and maintain long-term forest and soil *productivity*.

6. Protection of Water Resources
To protect water bodies and *riparian* zones.

7. Protection of Special Sites and Biological Diversity
To manage forests and lands of special significance (biologically, geologically, historically or *culturally significant important*) in a manner that takes into account their unique qualities and to promote a diversity of *wildlife habitats*, forest types, and ecological or natural community types.

8. Legal Compliance
To comply with applicable federal, provincial, state, and local forestry and related environmental laws, statutes, and regulations.

9. Continual Improvement
To continually improve the practice of forest management and also to monitor, measure and report performance in achieving the commitment to *sustainable forestry*.

Objectives for Sustainable Forestry
Some *Program Participants* own forestland, others own forestland and manufacturing facilities, and still others own manufacturing facilities only. As such,
SFIS *objectives 1–7* provide measures for evaluating *Program Participants'* compliance with the SFI Standard on forestlands they own or control through long-term leases.

SFIS *objective 8* provides measures for evaluating *Program Participants'* compliance with the SFI Standard through their *procurement* programs.
SFIS *objective*s *9–13* provide measures for evaluating all *Program Participants'* compliance with the SFI Standard for research, training, legal compliance, public and landowner involvement, management review, and continual improvement.

SFIS Objectives for Land Management

Objective 1. To broaden the implementation of *sustainable forestry* by ensuring long-term
harvest levels based on the use of the *best scientific information* available.

Performance Measure 1.1. *Program Participants* shall ensure that long-term harvest levels are sustainable and consistent with appropriate *growth-and-yield models* and written plans.

Indicators:
1. A long-term resource analysis to guide forest management planning at a level appropriate to the size and scale of the operation, including
a. a periodic or ongoing forest *inventory;*
b. a *land classification* system;
c. soils *inventory* and maps, where available;
d. access to *growth-and-yield modeling* capabilities;
e. up-to-date maps or a *geographic information system (GIS)*;
f. recommended sustainable harvest levels; and

g. a review of nontimber issues (e.g., pilot projects and economic incentive *programs* to promote water protection, carbon storage, or *biological diversity conservation*).
2. Documentation of annual harvest trends in relation to the sustainable forest management plan.
3. A forest *inventory* system and a method to calculate growth.
4. Periodic updates of *inventory* and recalculation of planned harvests.
5. Documentation of forest practices (e.g., planting, fertilization, and thinning) consistent with assumptions in harvest plans.

Objective 2. To ensure long-term forest *productivity* and *conservation* of forest resources through prompt *reforestation*, soil *conservation*, *afforestation*, and other measures.

Performance Measure 2.1. *Program Participants* shall reforest after final harvest, unless delayed for site-specific environmental or *forest health* considerations, through *artificial regeneration* within two years or two planting seasons, or by planned *natural regeneration* methods within five years.

Indicators:
1. Designation of all management units for either *natural* or *artificial regeneration.*
2. Clear criteria to judge adequate regeneration and appropriate actions to correct understocked areas and achieve acceptable species composition and stocking rates for both *artificial* and *natural regeneration.*
3. *Minimized* plantings of *exotic tree species* and research documentation that *exotic tree species*, planted operationally, pose minimal risk.
4. Protection of desirable or planned advanced *natural regeneration* during harvest.
5. Artificial *reforestation programs* that consider potential ecological impacts of a different species or species mix from that which was harvested.

Performance Measure 2.2. *Program Participants* shall *minimize* chemical use required to achieve management objectives while protecting employees, neighbors, the public, and the forest environment.

Indicators:
1. *Minimized* chemical use required to achieve management objectives.
2. Use of *least-toxic and narrowest-spectrum pesticides* necessary to achieve management objectives.
3. Use of pesticides registered for the intended use and applied in accordance with label requirements.
4. Use of *integrated pest management* where feasible.
5. Supervision of forest chemical applications by state-trained or certified applicators.
6. Use of *best management practices (BMPs)* appropriate to the situation; for example,
a. notification of adjoining landowners or nearby residents concerning applications and chemicals used;
b. appropriate multilingual signs or oral warnings;
c. control of public road access during and immediately after applications;
d. designation of streamside and other needed buffer strips;

e. use of positive shutoff and minimal-drift spray valves;
f. aerial application of forest chemicals parallel to buffer zones to *minimize* drift;
g. monitoring of water quality or safeguards to ensure proper equipment use and *protection* of streams, lakes, and other water bodies;
i. appropriate storage of chemicals;
j. filing of required state reports; or
k. use of methods to ensure protection of *threatened and endangered* species.

Performance Measure 2.3. *Program Participants* shall implement management practices to protect and maintain forest and soil *productivity.*

Indicators:
1. Use of soils maps where available.
2. Process to identify soils vulnerable to compaction and use of appropriate methods to avoid excessive soil disturbance.
3. Use of erosion control measures to *minimize* the loss of soil and site *productivity.*
4. Post-harvest conditions conducive to maintaining site *productivity* (e.g., limited rutting, retained down woody debris, *minimized skid trails*).
5. Retention of vigorous trees during partial harvesting, consistent with silvicultural norms for the area.
6. Criteria that address harvesting and site preparation to protect soil *productivity.*
7. *Minimized* road construction to meet management objectives efficiently.

Performance Measure 2.4. *Program Participants* shall manage so as to protect forests from damaging agents, such as environmentally or economically undesirable wildfire, pests, and diseases, to maintain and improve long-term *forest health, productivity* and *economic viability.*

Indicators:
1. *Program* to protect forests from damaging agents.
2. Management to promote healthy and productive forest conditions to *minimize* susceptibility to damaging agents.
3. Participation in, and support of, fire and pest prevention and control *programs.*

Performance Measure 2.5. *Program Participants* that utilize *improved planting stock,* including trees derived through *biotechnology,* shall use sound scientific methods and follow all applicable laws and international protocols.

Indicator:
1. *Program* for appropriate research, testing, evaluation, and deployment of *improved planting stock,* including trees derived through *biotechnology.*

Objective 3. To protect water quality in streams, lakes, and other water bodies.

Performance Measure 3.1. *Program Participants* shall meet or exceed all applicable federal, provincial, state, and local water quality laws and meet or exceed *best management practices* developed under U.S. Environmental Protection Agency–approved state water quality programs or other federal, provincial, state, or local programs.

Indicators:
1. *Program* to implement state or provincial *BMP*s during all phases of management activities.
2. Contract provisions that specify *BMP* compliance.
3. Plans that address wet-weather events (e.g., *inventory* systems, wet-weather tracts, definitions of acceptable operating conditions).
4. Monitoring of overall *BMP* implementation.

Performance Measure 3.2. *Program Participants* shall have or develop, implement, and document *riparian protection* measures based on soil type, terrain, vegetation, and other applicable factors.

Indicators:
1. *Program* addressing management and *protection* of streams, lakes, and other water bodies and *riparian* zones.
2. Mapping of streams, lakes, and other water bodies as specified in state or provincial *BMPs* and, where appropriate, identification on the ground.
3. Implementation of plans to manage or protect streams, lakes, and other water bodies.
4. Identification and protection of *nonforested wetlands*, including bogs, fens, vernal pools, and marshes of significant size.
5. Where regulations or *BMPs* do not currently exist to protect *riparian* areas, use of experts to identify appropriate *protection* measures.

Objective 4. To manage the quality and distribution of *wildlife habitats* and contribute to the *conservation* of *biological diversity* by developing and implementing *stand*- and *landscape*-level measures that promote *habitat* diversity and the *conservation* of forest plants and animals, including *aquatic fauna*.

Performance Measure 4.1. *Program Participants* shall have programs to promote *biological diversity* at *stand* and *landscape* levels.

Indicators:
1. *Program* to promote the *conservation* of native *biological diversity,* including species, *wildlife habitats,* and ecological or natural community types, at *stand* and *landscape* levels.
2. *Program* to protect *threatened and endangered* species.
3. Plans to locate and protect known sites associated with viable occurrences of *critically imperiled* and *imperiled* species and communities. Plans for *protection* may be developed independently or collaboratively and may include *Program Participant* management, cooperation with other stakeholders, or use of easements, *conservation* land sales, exchanges, or other *conservation* strategies.
4. Development and implementation of criteria, as guided by regionally appropriate science, for retention of *stand*-level *wildlife habitat* elements (e.g., snags, mast trees, down woody debris, den trees, nest trees).
5. Assessment, conducted individually or collaboratively, of forest cover types and *habitats* at the individual ownership level and, where credible data are available, across the *landscape,* and incorporation of findings into planning and management

activities, where practical and when consistent with management objectives.
6. Support of and participation in plans or *programs* for the *conservation* of *old growth forests* in the region of ownership.
7. Participation in *programs* and implementation of steps demonstration of activities as appropriate to limit the introduction, impact, and spread of invasive exotic plants and animals that directly threaten or are likely to threaten native plant and animal communities.
8. *Program* to incorporate the role of prescribed or natural fire where appropriate.

Performance Measure 4.2. *Program Participants* shall apply knowledge gained through research, science, technology, and field experience to manage *wildlife habitat* and contribute to the *conservation* of *biological diversity.*

Indicators:
1. Collection of information on *critically imperiled* and *imperiled* species and communities and other *biodiversity*-related data through forest *inventory* processes, mapping, or participation in external programs, such as NatureServe, state or provincial heritage programs, or other credible systems. Such participation may include providing nonproprietary scientific information, time, and assistance by staff, or in-kind or direct financial support.
2. A methodology to incorporate research results and field applications of *biodiversity* and ecosystem research into forest management decisions.

Objective 5. To manage the visual impact of harvesting and other forest operations.

Performance Measure 5.1. *Program Participants* shall manage the impact of harvesting on *visual quality.*

Indicators:
1. *Program* to address *visual quality management*.
2. Incorporation of aesthetic considerations in harvesting, road, landing design and management, and other management activities where visual impacts are a concern.

Performance Measure 5.2. *Program Participants* shall manage the size, shape, and placement of clearcut harvests.

Indicators:
1. Average size of clearcut harvest areas does not exceed 120 acres, except when necessary to respond to *forest health* emergencies or other natural catastrophes.
2. Documentation through internal records of clearcut size and the process for calculating average size.

Performance Measure 5.3. *Program Participants* shall adopt a *green-up requirement* or alternative methods that provide for *visual quality.*

Indicators:
1. *Program* implementing the *green-up requirement* or alternative methods.
2. Harvest area tracking system to demonstrate compliance with the *green-up requirement* or alternative methods.
3. Trees in clearcut harvest areas are at least 3 years old or 5 feet high at the desired level of stocking before adjacent areas are clearcut, or as appropriate to address

operational and economic considerations, alternative methods to reach the *performance measure* are utilized by the *Program Participant*.

Objective 6. To manage *Program Participant* lands that are ecologically, geologically, historically, or *culturally important* in a manner that recognizes their special qualities.

Performance Measure 6.1. *Program Participants* shall identify special sites and manage them in a manner appropriate for their unique features.

Indicators:
1. Use of existing natural heritage data and expert advice in identifying or selecting sites for *protection* because of their ecologically, geologically, historically, or *culturally important* qualities.
2. Appropriate mapping, cataloging, and management of identified special sites.

Objective 7. To promote the efficient use of forest resources.

Performance Measure 7.1. *Program Participants* shall employ appropriate forest harvesting technology and "in-woods" manufacturing processes and practices to *minimize* waste and ensure efficient utilization of harvested trees, where consistent with other SFI Standard *objectives*.

Indicator:
1. *Program* or monitoring system to ensure efficient utilization, which may include provisions to ensure
a. landings left clean with little waste;
b. residues distributed to add organic and nutrient value to future forests;
c. training or incentives to encourage loggers to enhance utilization;
d. cooperation with mill managers for better utilization of species and low-grade material;
e. merchandizing of harvested material to ensure use for its most beneficial purpose;
f. development of markets for underutilized species and low-grade wood;
g. periodic inspections and reports noting utilization and product separation; or
h. exploration of alternative markets (e.g., energy markets).

SFIS Objectives for Procurement

Objective 8. To broaden the practice of *sustainable forestry* through *procurement programs.*

Procurement from sources within the United States and Canada (8.1–8.4 apply)

Performance Measure 8.1. *Program Participants* shall encourage landowners to *reforest* following harvest, to use *BMPs,* and to identify and protect important habitat elements for *wildlife,* including *critically imperiled* and *imperiled* species and communities.

Indicator:
1. *Program* to supply regionally appropriate information or services to forest landowners, describing the importance and providing implementation guidance on
a. *BMPs;*
b. *reforestation;*
c. *visual quality management*; and
d. *conservation* of critical *wildlife habitat* elements, *threatened and endangered* species, and *critically imperiled* and *imperiled* species and communities.

Performance Measure 8.2. *Program Participants* shall encourage landowners to utilize the services of *qualified resource professionals* and *qualified logging professionals* in applying principles of sustainable forest management on their lands.

Indicators:
1. *Program* to promote the use of *qualified resource professionals* and *qualified logging professionals.*
2. List of *qualified logging professionals* maintained by *Program Participant*, state agency, loggers' association, or other organization.

Performance Measure 8.3. *Program Participants* shall clearly define and implement policies to ensure that mill inventories and *procurement* activities do not compromise adherence to the principles of *sustainable forestry*.

Indicators:
1. *Program* for the purchase of raw material from *qualified logging professionals, wood producers,* and *other wood suppliers*.
2. *Program* to ensure that harvests of *purchased stumpage* comply with *BMPs.*
3. *Program* to address adverse weather conditions.

Performance Measure 8.4. *Program Participants* shall monitor the effectiveness of efforts to promote *reforestation* and *BMPs*, using public or private sources of information.

Indicators:
1. A *verifiable monitoring system* to
a. evaluate the results of promoting *reforestation* across the *wood and fiber supply area;*
b. monitor the use of *BMPs* by *wood producers* supplying the *Program Participant*; and
c. evaluate the results of promotion and use of *BMPs* across the *wood and fiber supply area.*
2. Use of information from the *verifiable monitoring system* to set goals to improve, over time, rates of *BMP* compliance.

Procurement by manufacturing facilities enrolled in the SFI Program from sources outside the United States and Canada (8.5 and 8.6 apply)

Performance Measure 8.5 *Program Participants* shall ensure that their *procurement programs* support the principles of *sustainable forestry,* including efforts to thwart *illegal*

logging and promote *conservation* of *biological diversity*.

Indicators:
1. Process to assess the risk that the *Program Participant's procurement program* could acquire material from *illegal logging*. This process may include relying on the adequacy of legal protections in the United States and Canada, where laws against domestic *illegal logging* are enforced.
2. *Program* to address any significant risk identified under 8.5.1.
3. *Procurement* from areas outside the United States and Canada promotes *conservation* of *biodiversity hotspots* and *major tropical wilderness areas.*
4. *Program* with *direct suppliers* to promote the principles of *sustainable forestry*.
5. Knowledge about *direct suppliers'* application of the principles of *sustainable forestry.*

Performance Measure 8.6. *Program Participants* shall encourage economically, environmentally, and socially sound practices.

Indicator:
1. Process to assess the risk that the *Program Participant's procurement* could acquire material produced in violation of laws addressing takes place in countries without effective laws addressing the following:
a. workers' health and safety;
b. fair labor practices;
c. indigenous peoples' rights;
d. antidiscrimination and antiharassment measures;
e. prevailing wages; and
f. workers' right to organize.
This process may include relying on the adequacy of legal protections in countries, such as exist in the United States and Canada, where laws are effective because they are in place, are enforced for wood and fiber originating in those countries, and independent legal processes are available in the case of disputes.
2. *Program* to address any significant risk identified under 8.6.1.

SFIS Objective for Forestry Research, Science, and Technology

Objective 9. To improve forestry research, science, and technology, upon which sound forest management decisions are based.

Performance Measure 9.1 *Program Participants* shall individually, through cooperative efforts, or through associations provide in-kind support or funding, in addition to that generated through taxes, for forest research to improve the health, *productivity,* and management of forest resources.

Indicator:
1. Current financial or in-kind support of research to address questions of relevance in the region of operations. The research will include some or all of the following issues:
a. *forest health, productivity,* and ecosystem functions;
b. chemical efficiency, use rate, and *integrated pest management;*

c. water quality;
d. *wildlife* management at *stand* or *landscape* levels;
e. *conservation* of *biological diversity;* and
f. effectiveness of *BMPs.*

Performance Measure 9.2. *Program Participants* shall individually, through cooperative efforts, or through associations develop or use state, provincial, or regional analyses in support of their *sustainable forestry programs.*

Indicator:
1. Participation, individually or through cooperative efforts or associations at the state, provincial, or regional level, in the development or use of
a. regeneration assessments;
b. *growth-and-drain* assessments;
c. *BMP* implementation and compliance; and
d. *biodiversity conservation* information for family forest owners.

SFIS Objective for Training and Education

Objective 10. To improve the practice of sustainable forest management by resource professionals, logging professionals, and contractors through appropriate training and education *programs.*

Performance Measure 10.1. *Program Participants* shall require appropriate training of personnel and contractors so that they are competent to fulfill their responsibilities under the SFI Standard.

Indicators:
1. Written statement of commitment to the SFI Standard communicated throughout the organization, particularly to mill and woodland managers, wood *procurement* staff, and field foresters.
2. Assignment and understanding of roles and responsibilities for achieving SFI Standard *objectives.*
3. Staff education and training sufficient to their roles and responsibilities.
4. Contractor education and training sufficient to their roles and responsibilities.

Performance Measure 10.2. *Program Participants* shall work closely with state logging or forestry associations, or appropriate agencies or others in the *forestry* community, to foster improvement in the professionalism of *wood producers.*

Indicator:
1. Participation in or support of *SFI Implementation Committees* to establish criteria and identify delivery mechanisms for *wood producers'* training courses that address
a. awareness of *sustainable forestry principles* and the SFI Program;
b. *BMPs,* including streamside management and road construction, maintenance, and retirement;
c. regeneration, forest resource *conservation,* and aesthetics;
d. awareness of responsibilities under the U.S. Endangered Species Act, the Canadian Species at Risk Act, and other measures to protect *wildlife habitat;*

e. logging safety;
f. U.S. Occupational Safety and Health Administration regulations, wage and hour rules, and other employment laws;
g. transportation issues;
h. business management; and
i. public policy and outreach.

SFIS Objective for Legal and Regulatory Compliance

Objective 11. Commitment to comply with applicable federal, provincial, state, or local laws and regulations.

Performance Measure 11.1. *Program Participants* shall take appropriate steps to comply with applicable federal, provincial, state, and local forestry and related environmental laws and regulations.

Indicators:
1. Access to relevant laws and regulations in appropriate locations.
2. System to achieve compliance with applicable federal, provincial, state, or local laws and regulations.
3. Demonstration of commitment to legal compliance through *available regulatory action information.*
4. Adherence to all applicable federal, state, and provincial regulations and international protocols for research and deployment of trees derived from *improved planting stock* and *biotechnology*.

Performance Measure 11.2. *Program Participants* shall take appropriate steps to comply with all applicable social laws at the federal, provincial, state, and local social laws levels in the country in which the *Program Participant* operates.

Indicator:
1. Written *policy* demonstrating commitment to comply with social laws, such as those covering civil rights, equal employment opportunities, antidiscrimination and antiharassment measures, workers' compensation, indigenous peoples' rights, workers' and communities' right to know, prevailing wages, workers' right to organize, and occupational health and safety.

SFIS Objective for Public and Landowner Involvement in the Practice of Sustainable Forestry

Objective 12. To broaden the practice of *sustainable forestry* by encouraging the public and forestry community to participate in the commitment to *sustainable forestry* and publicly report progress.

Performance Measure 12.1. *Program Participants* shall support and promote efforts by consulting foresters, state and federal agencies, state or local groups, professional societies, and the *American Tree Farm System*® and other landowner cooperative programs to apply principles of sustainable forest management.

Indicators:
1. Support for efforts of *SFI Implementation Committees*.
2. Support for the development and distribution of educational materials, including information packets for use with forest landowners.
3. Support for the development and distribution of regional or statewide information materials that provide landowners with practical approaches for addressing *biological diversity* issues, such as specific *wildlife habitat, critically imperiled* or *imperiled* species, and *threatened and endangered* species.
4. Participation in efforts to support or promote *conservation* of working forests through voluntary market-based incentive *programs* (e.g., current-use taxation programs, Forest Legacy, or *conservation* easements).
5. Program Participants are knowledgeable about credible regional *conservation* planning and priority-setting efforts that include a broad range of stakeholders. Consider the results of these efforts in planning where practical and consistent with management objectives.

Performance Measure 12.2 *Program Participants* shall support and promote, at the state, provincial or other appropriate levels, mechanisms for public outreach, education, and involvement related to forest management.

Indicators:
1. Support for the *SFI Implementation Committee* program to address outreach, education, and technical assistance (e.g., toll-free numbers, public sector technical assistance programs).
2. Periodic educational opportunities promoting *sustainable forestry,* such as
a. field tours, seminars, or workshops;
b. educational trips;
c. self-guided forest management trails; or
d. publication of articles, educational pamphlets, or newsletters.
3. Support for state, provincial, and local forestry organizations and soil and water *conservation* districts.
4. Recreation opportunities for the public, where consistent with forest management objectives**.**

Performance Measure 12.3. *Program Participants* with forest *management responsibilities on public lands* shall participate in the development of *public land* planning and management processes.

Indicators:
1. Involvement in *public land* planning and management activities with appropriate governmental entities and the public.
2. Appropriate contact with local stakeholders over forest management issues through state, provincial, federal, or independent collaboration.

Performance Measure 12.4. *Program Participants* with forest *management responsibilities on public lands* shall consult confer with affected indigenous peoples.

Indicator:
1. *Program* that includes communicating with affected indigenous peoples to enable

Program Participants to
a. understand and respect *traditional forest-related knowledge* as proprietary information;
b. identify and protect spiritually, historically, or *culturally important* sites; and
c. address the sustainable use of nontimber forest products of value to indigenous peoples in areas where *Program Participants* have *management responsibilities on public lands.*

Performance Measure 12.5. *Program Participants* shall establish, at the state, provincial, or other appropriate levels, procedures to address concerns raised by loggers, consulting foresters, employees, the public, or *Program Participants* regarding practices that appear inconsistent with the SFI Standard *principles* and *objectives*.

Indicators:
1. Support for *SFI Implementation Committee* efforts (toll-free numbers and other efforts) to address concerns about apparent nonconforming practices.
2. Process to receive and respond to public inquiries.

Performance Measure 12.6. *Program Participants* shall report annually to the SFI Program on their compliance with the SFI Standard.

Indicators:
1. Prompt response to the annual SFI annual progress report survey questionnaire.
2. Recordkeeping for all the categories of information needed for SFI annual progress reports.
3. Maintenance of copies of past reports to document progress and improvements to demonstrate conformance to the SFI Standard.

SFIS Objective for Management Review and Continual Improvement

Objective 13. To promote continual improvement in the practice of *sustainable forestry* and monitor, measure, and report performance in achieving the commitment to *sustainable forestry*.

Performance Measure 13.1. *Program Participants* shall establish a management review system to examine findings and progress in implementing the SFI Standard, to make appropriate improvements in *programs*, and to inform their employees of changes.

Indicators:
1. System to review commitments, *programs*, and procedures to evaluate effectiveness.
2. System for collecting, reviewing, and reporting information to management regarding progress in achieving SFI Standard *objectives* and *performance measures*.
3. Annual review of progress by management and determination of changes and improvements necessary to continually improve SFI conformance.

Appendix C:
State Forest Assessment Itinerary & Audit Plan for Field Sites

General Itinerary

Sunday October 24, 2004
Hrubes, Capen and Ferrucci fly into Lansing

Monday October 25, 2004
Team: DNR Offices, Lansing, Michigan
8 am to 2 pm – overview of DNR Divisions
2 pm to 4 pm – stakeholder interviews

Tuesday October 26, 2004
Team: Roscommon Operations Service Center
Team: Roscommon Unit Office
Team: Roscommon Field Visits (am)
Team: Grayling Field Visits (pm)

Wednesday October 27, 2004
Mike Ferrucci: Gladwin Unit
Robert Hrubes: Traverse City Unit
Dave Capen : Gaylord Unit

Thursday October 28, 2004
Mike Ferrucci: Shingleton Unit
Robert Hrubes: Eastern UP District Office, Newberry
Dave Capen: Escanaba Unit, Crystal Falls Unit

Friday October 29, 2004
Team: Marquette Service Center – interviews/ meeting with staff (am)
Team: Closing Briefing (pm)

Audit Plan: State Forest Program Sites to be Visited

Itinerary summary	All Rosc/Grayling	Ferrucci Gladwin	Robert Hrubes Traverse City	Dave Capen Gaylord	Robert Hrubes Newberry	Ferrucci Shingleton	Dave Capen Escanaba	Dave Capen Crystal Falls
TIMBER SALE PROGRAM:								
Final harvest aspen Red pine thinning		1,2,3,5		5 1a		7 1,3,8		2
Final harvest red pine Jack pine removal cut jp/rd type					1			
Final harvest JP Removal cut swamp conifer		4		1	3,4,5	4,10	2	4
Final harvest swanp conifer Hardwood thinning				6				
Hardwood selection Oak intermediate cut	3		8 9	9c				1
White pine intermediate cut Undivided interest			2					discussion
Visual Management Conversion rp to jp	3	1,4,5,7		1,2,7		4 1		
Winter sales Scots pine thin & convert		1,2,7				3,7,8,10,11	2	
Red pine removal Final Harvest Cedar						11		
FOREST CULTIVATION:								
Disk and trenching Seeding				9a	5	11		
Planting - clearcut areas Planting - underplanting				1b	5	1,3,6,8		
Prescribed burns Chemical use	3			4,8 9b		11		
Pine underburn Impact of deer on regeneration			9			11	3	1
Scarification Timber Stand Improvement					3,4,5	4,10 7		
WATER QUALITY ISSUES:								
BMPs Culverts	2,4	3	4,8		8	2,5-8,10,11 8,11		2 1,3
Riparian zone mgn't R&B system	7			7		1,2,10,11		
Timber sales on wet soils Stream setbacks		1,2,3,4,5				3,7,8,10,11 6,11	2	
Soil Erosion Control issues			8	3	8	6		
PLANNING:								
OI	Provide a compartment printout for compartments visited, discussion of OI process at various stops							
IFMAP LSSF pilot project			2		OSC session?			
LAND USE:								
Cabin trespass Gate/road trespass		3		10 10	20-optional			
Mineral leasing & exploration Land exchange		1,2,3,7		10			5	
Easements Land use permits				2,6,10			5	
Road const/imp permits Public Use deed	4	2						
Rail to trails				10				
FOREST RECREATION:								
SF Campground Portage only campsites	8	7	5		6 6			
Cabins ORV Trail		6	3	3,6		1		1
Pathway		7	7	1c,4,5,7,10	lunch			

Note: Numbers refer to planned stops at individual locations.

Audit Plan: State Forest Program Sites to be Visited (continued)

	Rosc/Grayling	Gladwin	Traverse City	Gaylord	Newberry	Shingleton	Escanaba	Crystal Falls
WILDLIFE PRACTICES:								
Floodings / Wetland creation Deeryard Management		1,3				11	2	
Grass opening mechanical methods Seed openings						5		
Wildlife prescribed burn Seeding rimber sale roads				4,8		5,11		
Kirtland Warbler Elk management	6			8				
Mesic conifers Special areas		3,7		10				
FISHERIES MANAGEMENT:								
Streambank stabilization Sandtraps	7					6		
Stream habitat improvement Elimination of fish impediments	7					6		
Beaver Mgn't Stream setbacks				1		11 6,11		
Chemical treatment Fish planting		7			6 6			
Population mgn't					6			
FOREST HEALTH:								
Oak wilt Jack pine budworm	3				2		4	
Emerald ash boarer Exotic species			optional			2,3,5		
Chemicals Beech bark disease					6			
Ash decline								
SPECIAL AREAS:								
T&E Species Natural area management				10	6			1,2
Potential old growth Riparrian zone mgn't				10 10				
Other Sand dune	Mason tract		7Sand Lk quiet		2			
Natural rivers				10		2		
MINERAL MANAGEMENT:								
Mineral leasing Mineral exploration							5 5	
Gravel pit restoration Small gravel pits, not leased	5	possible possible					1	
Leased sand and gravel pits Mining	5						5	
Oil and gas			6	2,6				
WILDFIRE SUPPRESSION:								
Fire Prevention Fire Suppression		3			7			
Forest fire experiment station ICC	1							
Fire fighting equipment	View equipment at field offices and at FFES as time allows							
Research								
ROAD AND BRIDGE:								
Dept. road maintenance Culverts	2	3 2,3,7				1,11 8,11		3 3
Bridges Road closures		1,2,3,7 1	4		8 5	2,3,10 9,10,11	2	
Road obliteration Broad based dip					21- optional			

Note: Numbers refer to planned stops at individual locations.

State Forest Program Sites Actually Visited

Note: Sites are numbered from original list of sites suggested by MI DNR. In cases where a site was not visited there will be a gap in the sequence

Roscommon/Grayling Management Unit: Scoping Field Visits 26-Oct-04

	Office Session at Roscommon OSC
	Office session at Roscommon Field Office
1	Forest Fire Experiment Station
2	Culvert installation on road leading into a timber sale area
3	Oak final and intermediate cuts, visual management, prescribed burn
4	Public use deed to Roscommon County Road Commission
5	9 Mile Hill Gravel Pit
	Lunch at Chase Bridge access site-
6	Kirtland Warbler Management Area (Pere Cheney K.W.M.U.)
7	South Branch of AuSable River - Canoe access site, Fisheries woody debris procurement sites, trout habitat improvement
8	Canoe Harbor Campground
	Return to Station

Gaylord Management Unit: Scoping Field Visits 27-Oct-04

	Meet with OSC staff
	Meet with Unit's Gaylord staff at the Gaylord field office.
	Sand Lake area (T29N R5W): This area demonstrates the majority of programs that the division administers and how we strive to implement them without conflict while meeting multiple objectives. Along N. Crooked Lake Rd. there are numerous examples of jack pine final harvest, red pine thinning and plantings that are noted on the map as we drive to the stops.
1	Stand 23 – Completed jack pine final harvest, chipped; an island of unusual larger red and white pine were left in a small drainage.
a.	drive through Stands 21 and 22 – Red pine plantations, part of an open timber sale contract. St. 21 is a first time, third-row thinning; St. 22 – was a marked thinning.
b.	drive through planted red pine that was protected during adjacent harvest.
c.	drive through red pine plantation thinned and sale closed Fall 2004
2	Antrim Gas development: Minimizing disturbance - adjacent new well utilizes part of the old well pad; pipeline easements; native grass seed; invasive spotted knapweed control; protected during adjacent timber sales.
3	Sand Lake (optional) – recently acquired 160 acre parcel with Trust Fund monies, the lake is 50 acres; ORV damage restoration plan. Did not stop; only drove by.
4	Prescribed wildlife burn – opening maintenance; protection of North Country Hiking Trail and snowmobile trail during all operations, timber, gas and burns.

	(drive through contract red pine marking)
5	Aspen final harvest preparation with trees marked to be dropped and left after the sale is cut to create coarse woody debris. (drive by 15 year old aspen regeneration)
6	Marked hardwood pole stand thinning; ORV trail and pipeline easement protection.
7	Deadman's Hill -Jordan River Valley: Special management area including the state's first designated Natural River, N. Country Trail, timber harvesting, old growth, snowmobile trail.
8	Elk management – SW of Wolverine, T33N R3W Section 26
	**meet Indian River staff on site
9	Wilmot Twp. T33N R3W Sections 16, 17:
a.	Trenching – completed Oct. 2004 for a jack pine plantation
b.	Herbicide release – completed Oct. 2004 for red pine plantation
c.	Hardwood management – sale prepared (with painted trees) & sale just harvested.
10	Rail-Trail management – N. Indian River: planning; recreation opportunities and conflicts; multi-agency cooperation; trespasses; land surveys; easement requests and impacts.

Traverse City Management Unit: Scoping Field Visits 27-Oct-04

	Traverse City Office
1.	Vasa Single Track Trailhead – mountain bike trail
2.	Compartment 55 – IFMAP
3.	Grand Traverse Motorcycle Trail.
4.	Road Closure at an abandoned oil well site. (BMPs can possibly be included at this stop).
5.	Lunch at Forks Campground
	Forks Campground. This campground is located on the Boardmen River which is a natural river. Campground heavily used by canoes. Also this campground was a site for the EAB trap project.
6.	Oil and Gas Facility
7.	Sands Lake Quiet Area. Site will include a pathway.
8.	Timber Sale Harwood
9.	Timber Sale Oak
	Return to Office

Gladwin Management Unit: Scoping Field Visits
27-Oct-04

1.	Old borrow ponds & fish rearing area adjacent to US-10 & M-18 highways. The ponds are not visible from the roads but some timber harvests were. Viewed examples of visual management concerns, fisheries use, illegal ORV use in wetland areas, road closures, LTAs. Unmaintained ponds -about 6 years ago spillway breached by excessively high water and large amount of soil was washed into the adjacent creek.
2.	Baker Road. We have extensive hunter use in this area (with it's accompanying territorialism, illegal ATV use, concern over timber sales, etc.), road closures, wetland sales, land exchanges, trespass,
3.	Kawkawlin Flooding: A large block of state forest land that has a focused management plan for waterfowl. Wildlife Division oversees the flooding while FMFM administers land use & timber sales. Working jointly to update plan, closing some roads with berms and gates while improving others. Examples of aspen management, wetland issues, trespass. Kawkawlin Fire discussion; "Firewise Communities" program.
4.	Active timber sale: final harvest of jack pine next to a former ORV trail (now closed and restored)
5.	Denton Divide, Estey Road: Active timber sale: mix of harvest operations including final harvest of low ground aspen and a selection cut.
6.	Gladwin ORV Trail.
7.	(added) Highway M1 and Deer Road: roadside aesthetics
8.	(added) ORV Parking Area

Newberry Management Unit: Scoping Field Visits
28-Oct-04

	Office Session at Newberry OSC
	Office session at Newberry Field Office
	Depart Newberry Field Office
1	Active TS - #9-03 JP&RP Mix - Cutting by WJZ & Sons
2	Proposed TS - #16-04 JP - Envir. Issues & Critical Dunes Permit/JP Budworm
	Lunch @ Lake Superior SFC - ORV issues/Visual Mgt/NC Trail
3	Drive by of Harvest Site Before Scarification - TS #29-01 JP cut - Regen
4	Drive by of Recent Scarification - TS # 17-01 & 19-01, JP cuts - Regen/Visual Mgt
5	JP Plant - C19 S72 - Failed Nat Regen w Follow-up Planting/Road Closure
6	Pretty Lake Campground - Maint/Quiet Area/BBD/Fish Mgt/Remote Camping
7	Wildfire - stop on CR 416 - Suppression and Rehab
8	Ottobrant Bridge - Snowmobile Trails/Accidents/Safety/Erosion Control

Shingleton Management Unit: Scoping Field Visits
28-Oct-04

1	Danaher Road
a.	Road/Bridge: Dept Maintained Rd
b.	Red Pine to Jack Pine conversion: Danaher/Star Sale, plantation under planted, then overstory removed
c.	discussion of Danaher Fire, burn restoration, fire lines
2	M-77/E.Branch
a.	Forest Health: scotch pine removal
b.	RP thinning: Pomeroy Sale, plantation, different residual BA left
c.	Bridge: new snowmobile bridge
d.	Danaher Plains Trail: ORV parking lot and trailhead
3	Seney South:
	Timber sales on Wet Soils: SW Seney Sale, Natural RP plantation
	Road/Bridge: old bridge
	RP thinning: SW Seney Sale, obj- selection, underplant - not met
	Forest Health: Buckthorn removal with prison crew
4	CoRd 450 N:
	Visual: Cody's Last Stand JP natural, 2 Mile Again JP natural
	historical cuttings of JP and visual going north
5	Bullock M-28: (renumbered locally as Site #4)
	Forest Health: Spotted Knapweed removal with prison crew
	Opening Maintenance: Hand tools used by prison crew
	BMP: dry ditches/timber sale of natural pine stands and aspen areas
6	Driggs River Rd:
	FD Stream Set Backs: Timber sale buffers of river, discussion on the way up
	Underplanting: Underplant pine at unofficial camping site
7	M-28 (1):
	Timber sales on Wet Soils: M-28 Aspen Sale, wet soils & drains within sale area
8	M-28 (2): (renumbered locally as Site#5)
	Culverts: Zellar's culvert removed, M-28 Pine Sale, natural RP stand
	Sales on Wet Soils: Zellar's Sale north, Pomeroy Sale south, natural RP stand
	Underplanting: Zellar's Sale north, Pomeroy Sale south, with prison crew
9	Hartman Camp
	Road Closures: blocking/re-blocking roads, access issues for power lines, hunters
10	Pine Creek Sale: (renumbered locally as Site #8)
	Road/Bridge/BMP: portable bridge, weirs -closing roads after sale
	TS Wet Soils: Natural JP stand treated w. clear cut, some areas received cult work
11	Star Siding Rd: (renumbered locally as Site #9)
	Culverts: New Star Creek culvert, access into timber sales
	WLD Cedar Cuts: cut/burn this year w. winter seeding Rx, adjacent sales were not
	Opening Maintenance: Camp 3 openings by use of fire
	Timber sales Wet Soils: cedar cut, stand mix swamp conifers & lowland hardwoods
	FD Stream Set Backs: 300' buffer in cedar cuts
12	MPC Hardwood Sale (Unit 7, Stand 24) marked by contractors

Note differences in numbering between Lansing list and local tour as conducted at Shingleton Unit.

Escanaba Management Unit: Scoping Field Visits
28-Oct-04

	Office Briefing (Escanaba Field Office)
	Travel to Limpert Rd. Gravel Pit
1	Small pit in use
2	Survey Crew Balm sale: Swamp Conifer Management
3	D4 Rd Hardwoods sale: Deer Impacts on Regeneration
4	Oak Wilt Sites
5	Mineral exploration (well) sites

Crystal Falls Management Unit: Scoping Field Visits
28-Oct-04

	Meet at Norway Field Office
1	Long Drive Hardwood sale - Hardwood selection cut, tree regeneration issues, ORV trail issues, culvert installation, eagle nest
2	Treed Bear Sale - Aspen final harvest, BMPs, eagle nest, culverts.
3	Cassidy Creek Road - Culvert installation, Department Road maintenance
4	Lowland Conifer sale - timber/deer management issues
5	Undivided interest issues on the Crystal Falls unit. No site visit; only discussion of issues while driving.

Appendix D:
SFIS Gap Analysis Matrix for Michigan State Forests

See "MATRIX MI DNR State Forests 12.13.2004" for pages 39-69

Appendix E: Opening and Closing Meeting Sign-in Sheets

Appendix D: Gap Analysis Matrix for Michigan State Forests

Opportunities for Improvement; Practices that Exceed Expectations; and Auditor Notes

Sites Visited:

Day 1 (Monday October 25, 2004)
DNR Offices, Lansing, Michigan
8 am to 2 pm – overview of DNR Divisions
2 pm to 4 pm – stakeholder interviews

Day 2 (Tuesday October 26, 2004)
Roscommon Operations Service Center
Roscommon Unit Office
Roscommon Field Visits (am)
Grayling Field Visits (pm)

Day 3 (Wednesday October 27, 2004)
Mike Ferrucci: Gladwin Unit
Robert Hrubes: Traverse City Unit
Dave Capen : Gaylord Unit

Day 4 (Thursday October 28, 2004)
Mike Ferrucci: Shingleton Unit, 360,000 acres
Robert Hrubes: Eastern UP District Office, Newberry (1 million acres/ecoregional planning)
Dave Capen: Escanaba Unit, Crystal Falls Unit

Day 5 (Friday October 29, 2004)
Marquette Service Center – interviews/ meeting with staff (am)
Closing Briefing (pm)

Abbreviations Used:

ADA Americans with Disabilities Act

BOH Bureau of History, Arts, and Libraries

FTP Forest Treatment Proposal

FMFM Forestry, Minerals, and Fire Management Division (of MI DNR)

F.V.S. Forest Visualization System: a US Forest Service computer program used to project future stand conditions using existing inventory data and computer models for tree growth and mortality

MI DNR Michigan Department of Natural Resources

O.I. Operations Inventory

SIC State Implementation Committee: an official SFI-affiliated Michigan organization working on a range of sustainable forestry activities

S.H.P.O. state historic preservation office: in Michigan History, Arts, and Libraries (HAL) is the S.H.P.O.

Opportunities for Improvement (OFI):

2.1 Indicator 6: There is an opportunity to improve strategic planning, including long-term & large-scale factors, to enable improved assessment of impacts and opportunities for management of composition when making planting decisions.

4.1 Indicator 1: Field staff require additional guidance on types of stands to nominate for Biodiversity Management Areas and management practices available once areas are designated.

4.1 Indicator 2: There is an opportunity to provide more training and to involve field foresters in reconnaissance for T&E species during O.I.

Practices that exceed expectations:

2.4 Forest protection programs are a clear strength , with particular emphasis on maintaining healthy stands and on a range of fire protection programs and strategies (training, research, outreach, preparedness).

5.1 MI DNR programs for visual management have produced excellent on-the-ground results.

6.1 The identification and management of special sites is a clear strength of the MI DNR program.

7.1 Field observations confirmed excellent utilization practices at harvest sites visited.

9.1 MI DNR has strong, long-term record of providing funding for and participating in research.

12.2 Indicator 2: Public outreach and involvement are clear strengths of the MI DNR program.

12.2 Indicator 3: Recreation facilities are developed for many different uses across the state. Efforts are made to provide access for disabled visitors, with ADA guidelines followed for new or reconstructed facilities. However, steady increases in recreational demands are threatening to overwhelm resources.

Additional Data on Chemical Use:

For the past five seasons (2000-2004), the total red pine activity for the state forest lands located in the Eastern FMFM District in the Lower Peninsula was as follows: of the 763 acres of red pine planted, 232 acres received herbicide site preparation, and 61 acres of these had a second ("release") herbicide application. These amounts should be contrasted against the total 500,000 acres inventoried during this time and the tremendous loss of red pine acreage from the landscape -- red pine acres herbicided amount to .05% (1/20th of 1 percent) of the inventoried acres. For the other northern lower Forest Management Units the amount was even less (only 33.5 red pine acres received any herbicide treatments between 2000 and 2004 the Western FMFM District in the Lower Peninsula).

Reforestation on all state forest lands, 2000-2004:

Planting (includes seeding) -ALL SPECIES	20,577 ac
Kirtland Warbler jack pine plantings	6,910 ac
Planting (red pine)	5,477 ac

Herbicide use on all state forest lands, 2000 – 2004:

Site prep using chemicals	706 ac
Release using chemicals	2,693 ac

Source: MI DNR

SFIS Gap Analysis Matrix

NSF-ISR auditors use a similar SFIS Certification Audit Matrix to record their findings for each SFIS Performance Measure and Core Indicator. Where a major or minor non-conformance is found, the auditor would normally fully document the reasons for the nonconformity on a Corrective Action Request (CAR) form. If the Performance Measure does not apply, N/A is placed in the appropriate Auditor Note section. For this gap analysis the columns for non-conformances were replaced with a column labeled "Gap". These items may be areas where there is no program or activity, where the required activity is not documented, or where there is no objective evidence.

SFIS Objectives for Land Management

Objective 1: Broaden the implementation of sustainable forestry by employing an array of economically, environmentally and socially sound practices in the conservation of forests including appropriate protection, growth, harvest and use of those forests using the best scientific information available.

Criteria		Auditor Notes	FC	EXR	Gap	OFI
4.1	***Program Participants shall ensure that long-term harvest levels are sustainable and consistent with appropriate growth and yield models and written plans.***	Note new numbering system. 4.1 was formerly 4.1.1.1.4 **Two gaps were identified, one of which has multiple parts. Longer-term, larger-scale planning efforts are incomplete.**			**2**	
1	A long-term resource analysis to guide forest management planning at a level appropriate to the size and scale of the operation, including: a. a periodic or ongoing forest inventory; b. a *land classification* system; c. soils *inventory* and maps, where available; d. access to *growth and yield modeling* capabilities; e. up-to-date maps or a *Geographic Information System (GIS)*;	It is understood that MI DNR does not currently have an integrated, comprehensive resource analysis, which may be a significant gap for such a large land ownership. During the full audit the certification team will need to understand the breadth of non-timber planning that covers large areas and longer (than ten-year) time frames, and the degree to which compartment reviews are informed by other planning processes. a. O.I. of 10% of compartments annually; b. Land Type Associations, Kotar system, and pre-European settlement maps from G.L.O. records; c. Soils information is available on GIS; d. MI DNR has access to Growth and yield modeling, which has been occasionally used, for example with the red pine project. All Forest Management Units will have direct access to G&Y modeling as it is incorporated into IFMAP. This capability will be explored during the certification audit to determine whether it meets the spirit and intent of the SFI standard; e. Excellent GIS system universally employed;	**A.** **B.** **C.** **D.** **E.**			

FC=Indicators in place, conformance likely based on sample reviewed EXR=Exceeds Requirements Gap=Gap in program/evidence OFI=Opportunity for Improvement

Criteria		Auditor Notes	FC	EXR	Gap	OFI
	f. recommended sustainable harvest levels; and	f. Detailed, spatially explicit data collected through OI provides a basis for developing and documenting available harvest levels on an ongoing, but only 3-year forward-looking, basis. Recommended annual harvest levels are developed jointly by professional foresters, wildlife biologists, and fisheries biologists. A key objective in making forest prescriptions is balancing resource needs (condition of the various forest cover types) with the long-term goal of attaining an even distribution of size and age classes for long-term sustainability.			**F.**	
	g. a review of non-timber issues (e.g., including pilot projects and economic incentive programs to promote water protection, carbon storage, or biological diversity conservation).	g. Some strategic level analyses and planning efforts focused on high profile non-timber issues such as Kirtland's warbler and river corridors exist. Absent completed ecoregional planning, the primary tactical planning process (OI, IFMAP, and Compartment Reviews) that is focused on timber and habitat management on a ten year review cycle does not appear to address nontimber issues in the broad landscape context (larger spatial-scales than compartments).			**G.**	
2	Documentation of annual harvest trends in relation to sustainable forest management plan.	A gap exists relative to clearly stated planned harvest levels beyond the three YOEs normally in planning/ operations que, or across larger spatial scales (i.e. districts or forest wide). Acreage target from Mich. Silvicultural Analysis appears not to be accepted by all stakeholders as definitive.			**X**	
3	A forest inventory system and a method to calculate growth.	O.I. are consistently completed on 10% of compartments annually. Past growth can be calculated by comparing two different inventory periods, adjusting for harvesting.	**X**			
4	Periodic updates of inventory and recalculation of planned harvests.	O.I. of 10% of compartments annually; Inventory consistently updated on 10-year cycle. Recalculate harvests annually based on compartment exam process.	**X**			
5	Documentation of forest practices (e.g., planting, fertilization, thinning, etc.), consistent with assumptions in harvest plans.	No Allowable Cut Effect is assumed, so there is no concern about overly optimistic harvesting levels based on growth acceleration due to forest practices. Forest practices (FTPs) are consistently tracked.	**X**			

Old 4.1.1.1.1	***Program Participants* shall have policies to implement and achieve the Sustainable Forestry Standard Principles and Objectives.**
Old 4.1.1.1.2	***Program Participants* shall (individually, through cooperative efforts or through associations) provide funding for forest research to improve the health, *productivity* and management of all forests.**
Old 4.1.1.1.3	***Program Participants* shall provide recreation and education opportunities for the public where they are consistent with their forest management objectives.**
Old 4.1.1.1.4	***Program Participants* shall ensure that long-term harvest levels are sustainable and consistent with appropriate *growth and yield models* and written plans.**

FC=Indicators in place, conformance likely based on sample reviewed EXR=Exceeds Requirements Gap=Gap in program/evidence OFI=Opportunity for Improvement

Objective 2: Ensure long-term forest productivity and conservation of forest resources through prompt reforestation, soil conservation, afforestation and other measures.

Criteria		Auditor Notes	FC	EXR	Gap	OFI
2.1	***Program Participants shall reforest after final harvest, unless delayed for site-specific environmental or forest health considerations, through artificial regeneration within two years or two planting seasons, or by planned natural regeneration methods within five years.***	**Despite one very limited gap and one OFI, this is generally a clear strength of the MI DNR program. Regeneration is nearly always achieved, although providing assurance of meeting the five - year target will be challenging.**			**1**	**1**
1	Designation of all management units for either natural or artificial regeneration.	Timber sale preparation and internal review process confirms any regeneration decision made during O.I. and compartment review	**X**			
2	Clear criteria to judge adequate regeneration and appropriate actions to correct under-stocked areas and achieve desired species composition and stocking rates for both artificial and natural regeneration.	There were some examples of failed regeneration highlighted during the scoping assessment, although these appear to be limited in scope. Difficult regeneration situations are widely understood by field foresters throughout the FMFM Division. When regeneration is difficult, Michigan DNR obtains resources to promote the achievement of regeneration. When natural regeneration fails planting is done, although not always within five years. O.I. system timing is such that regeneration surveys for natural regeneration do not generally occur until 5 or more years following harvest			**X**	
3	Plantings of exotic tree species are *minimized*. Research documentation is available that exotic tree species, planted operationally, pose minimal risk.	Observations confirmed native species are extensively planted, that no exotics are planted, and that exotic trees and plants are actively removed or their spread is limited.	**X**			
4	Protection of desirable or planned advanced natural regeneration during harvest.	Observations confirmed that desirable natural regeneration is protected during harvest.	**X**			
6	Artificial reforestation programs consider potential ecological impacts when using a different species or species mix from that which was harvested.	All prescriptions for planting are reviewed by a forester, wildlife, and fisheries biologists, who all consider potential ecological impacts. OFI: Strategic planning, including long-term & large-scale factors, to enable improved assessment of impacts and opportunities for management of composition.				**X**

FC=Indicators in place, conformance likely based on sample reviewed EXR=Exceeds Requirements Gap=Gap in program/evidence OFI=Opportunity for Improvement

Criteria		Auditor Notes	FC	EXR	Gap	OFI
2.2	***Program Participants shall minimize chemical use required to achieve management objectives while protecting employees, neighbors, the public and the forest environment.***	**MI DNR uses forest chemicals sparingly in most cases. One Gap identified may be resolved by consistent application of the Red Pine plan.**			**1**	
1	Minimize chemical use required to achieve management objectives.	Chemical site preparation and release occurs on some Red Pine sites in the northern portion of the lower peninsula. The Red Pine plan provides guidance for matching species to site. Aside from this exception, chemical use is minimal on state forests, with many efforts taken to achieve management objectives without chemicals. Example: Jack Pine is often regenerated using trenching followed by seeding or planting. See "Auditor Notes" on second page of Matrix for Additional Data on Chemical Use supplied by MI DNR.			**X**	
2	Use of least toxic and narrowest spectrum pesticide narrowest spectrum and least toxic pesticides necessary to achieve management objective.	Pesticides used are narrow spectrum.	**X**			
3	Pesticides must be registered for the intended use and applied in accordance with the label requirements.	Only registered pesticides are used.	**X**			
4	Use of Integrated Pest Management where feasible.	An IPM approach is the de facto standard, with care taken during all stages of inventory, planning, and operations to develop and maintain healthy stands.	**X**			
5	Designated state-trained or certified applicators supervise forest chemical applications.	Silviculture specialists, who are certified applicators, are involved in chemical use.	**X**			

Criteria		Auditor Notes	FC	EXR	Gap	OFI
6	Chemicals applied using Best Management Practices appropriate to the situation; for example: - adjoining landowners or nearby residents notified of - applications and chemicals used; - appropriate multi-lingual signs or oral warnings used; - public road access controlled during and after applications; - streamside and other needed buffer strips appropriately designated; - positive shut-off and minimal drift spray valves used; - drift minimized by aerially applying forest chemicals parallel to buffer zones; - water quality monitored or other methods used to assure proper equipment use and stream protection of streams, lakes and other waterbodies; - chemicals stored at appropriate locations; state reports filed as required; or - methods used to ensure protection of federally listed threatened and endangered species	Based largely on interviews, the audit team learned of a variety of Best Management Practices, including many of the examples listed in the indicator.	**X**			
2.3	***Program Participants shall implement management practices to protect and maintain forest and soil productivity.***	**Based on a limited sample of field sites, MI DNR has generally strong performance in this area.**			**1**	
1	Soils maps used where available.	Confirmed that GIS includes soils maps where available in digital form.	**X**			
2	A process to identify soils vulnerable to compaction and use appropriate methods to avoid excessive soil disturbance.	Planning identifies winter harvest locations based on soils and landforms.	**X**			
3	Use of erosion control measures to minimize the loss of soil and site productivity.	Observations of harvest areas showed good practices.	**X**			
4	Harvest conditions are conducive to maintaining site productivity (e.g., limited rutting, retained down woody debris, minimized skid trails).	Some units with good chip markets were devoid of woody debris.			**X**	

FC=Indicators in place, conformance likely based on sample reviewed EXR=Exceeds Requirements Gap=Gap in program/evidence OFI=Opportunity for Improvement

Criteria		Auditor Notes	FC	EXR	Gap	OFI
5	Where practicing partial harvesting, vigorous trees are retained consistent with silvicultural norms for the area.	Field observations of many partial harvests showed that vigorous, healthy trees are retained, and that removals focus on least-healthy trees.	**X**			
6	Criteria to address harvesting and site preparation to protect soil productivity in place.	In some units, field foresters were able to describe criteria for excessive rutting (six-inch ruts for 100 yards or so). BMPs are quite general regarding soil compaction/rutting.	**X**			
7	Road construction is kept to the minimum necessary to meet management objectives efficiently.	Road construction is minimized, as these lands are generally already well-roaded, except in the U.P. Road maintenance funding appears erratic, and some poorly maintained roads were observed (see 3.1).	**X**			
2.4	***Program Participants shall manage so as to protect forests from damaging agents such as environmentally or economically undesirable wildfire, pests and diseases to maintain and improve long-term forest health, productivity and economic viability.***	**Forest protection programs are an integral part of the MI DNR's State Forest Management. Forests viewed appeared generally healthy and were managed with careful attention to forest protection issues.**		**X**		
1	Program to protect forests from damaging agents.	Staff are sensitive to pathogens where forests are at risk. Specialists regionally available to provide advise and assistance to field foresters.	**X**			
2	Forests managed in a healthy and productive condition to minimize susceptibility to damaging agents.	Field observations confirm healthy forests. Fire officers are on staff, focus on recreation areas and fire, also timber.	**X**			
3	Participation in, and support of, fire and pest prevention and control programs.	Statewide leadership in co-operative fire fighting and protection is a legislative mandate for the FMFM Division. Part of Fed/State Cooperative; Great Lakes Forest Fire Compact; since 1928 Roscommon Equipment Center (REC) has developed fire fighting equipment; observed some equipment design and fabrication work at the REC. Prescribed fire used as a restoration tool.		**X**		
2.5	***Program Participants that utilize genetically improved planting stock including those derived through biotechnology, shall use sound scientific methods and follow all applicable laws and other internationally applicable protocols.***	**The Performance Measure appears to be met.**	**X**			
1	Program for appropriate research, testing, evaluation and deployment of genetically improved planting stock	No planting stock derived through biotechnology is utilized. More attention to tree improvement program will occur during the full certification.	**X**			

FC=Indicators in place, conformance likely based on sample reviewed EXR=Exceeds Requirements Gap=Gap in program/evidence OFI=Opportunity for Improvement

Old Objective 2: Ensure long-term forest productivity and conservation of forest resources through prompt reforestation, soil conservation, afforestation and other measures.

Criteria	
Old 4.1.2.1.1	***Program Participants*** **shall reforest after final harvest by planting or direct seeding within two years or two planting seasons, or by planned** ***natural regeneration*** **methods within five years.**
Old 4.1.2.1.2	***Program Participants*** **shall promote state-level reporting of the overall rates of reforestation success and afforestation.**
Old 4.1.2.1.3	***Program Participants*** **shall** ***minimize*** **chemical use required to achieve management** ***objectives*** **while protecting employees, neighbors, the public and the forest environment.**
Old 4.1.2.1.4	***Program Participants*** **shall implement management practices to protect and maintain forest and soil** ***productivity.***
Old 4.1.2.1.5	***Program Participants*** **shall manage so as to protect forests from damaging agents such as wildfire, pests and diseases to maintain and improve long-term** ***forest health, productivity*** **and** ***economic viability*****.**
Old 4.1.2.1.6	***Program Participants*** **that utilize** ***genetically improved seedlings,*** **including those derived through** ***biotechnology*****, shall use sound scientific methods and follow all appropriate federal and state regulations and other internationally applicable protocols.**

Objective 3: Protect the water quality in streams, lakes and other waterbodies.

Criteria		Auditor Notes	FC	EXR	Gap	OFI
3.1	***Program Participants shall meet or exceed all applicable federal, provincial, state and local water quality laws and meet or exceed Best Management Practices developed under Environmental Protection Agency (EPA)-approved state water quality programs or those developed under other applicable federal, provincial, state or local programs.***	Attention to the full range of BMP management requirements appears to be lacking. Three of four indicators have gaps. The scoping (gap analysis) project did not focus on this issue, including only a limited sample of harvest sites and roads.			**3**	
1	Program to implement state or provincial equivalent BMPs during all phases of management activities.	Road maintenance budgets & systems are a concern. Facilities and roads funding allocated annually by legislature, and 2004 allocation had not been made as of the scoping assessment. Units do not have road management plans – instead, roads are inventoried during O.I. on a rolling ten-year basis. Road planning is done on an annual basis. Maintenance of roads appears quite variable, with BMP violations observed (and more described by staff).			**X**	
2	Contract provisions specify BMP compliance.	BMP compliance is in new contract specifications	**X**			
3	Plans are in place to address wet weather events (e.g., inventory systems, wet weather tracts, defining acceptable operational conditions, etc.).	Wet weather / frozen ground tracts are identified. Gap: Clarification of acceptable rutting/ soil compaction.			**X**	
4	Monitoring of overall BMP implementation.	Interview with FMFM staff revealed that BMP monitoring has been periodic, last done 3+ years ago.			**X**	

FC=Indicators in place, conformance likely based on sample reviewed EXR=Exceeds Requirements Gap=Gap in program/evidence OFI=Opportunity for Improvement

Criteria		Auditor Notes	FC	EXR	Gap	OFI
3.2	***Program Participant shall develop (where they do not currently exist), implement, and document, riparian protection measures based on soil type, terrain, vegetation and other applicable factors.***	**Riparian protection is a clear program strength. However, ever-increasing ORV violations are negatively impacting wetlands, according to some staff.**			**1**	
1	Program addressing management and protection of streams, lakes and other water bodies and riparian zones.	The compartment review process, riparian protection measures, and careful implementation of timber harvests comprise such a program.	**X**			
2	Streams, lakes and other water bodies riparian zones mapped as specified in state or provincial equivalent BMPs and, where appropriate, identified on the ground.	Riparian buffers are identified on ground when necessary.	**X**			
3	Plans to manage or protect streams, lakes and other water bodies are implemented.	Good implementation of plans observed, although field sites were somewhat limited during the scoping evaluation.	**X**			
4	Non-forested wetlands, including bogs, fens, vernal pools and marshes of significant size, are identified and protected.	ORV damage to wetlands was observed during scoping; staff concerns were discussed about damage to wetlands by illegal (off-trail) ORV use.			**X**	
5	Where regulations or BMPs do not currently exist to protect riparian areas, experts are involved in identifying appropriate protection measures.	NA, as regulations and BMPs do exist.	**NA**			

Old: Objective 3: Protect the water quality in streams, lakes and other waterbodies.

Old 4.1.3.1.1	***Program Participants* shall meet or exceed *Best Management Practices* developed under Environmental Protection Agency (EPA)-approved state water quality programs and meet or exceed all applicable state water quality laws and regulations and the requirements of the federal Clean Water Act.**
Old 4.1.3.1.2	***Program Participant* shall develop (where they do not currently exist), implement and document *riparian protection* measures based on soil type, terrain, vegetation and other applicable factors.**
Old 4.1.3.1.3	***Program Participants* shall, individually, through cooperative efforts, or through AF&PA, provide funding for water quality research.**
Old 4.1.3.1.4	***Program Participants* shall require *BMP* training for employees in forest management and wood *procurement* operations and shall encourage training for forest management and harvesting contractors.**

FC=Indicators in place, conformance likely based on sample reviewed EXR=Exceeds Requirements Gap=Gap in program/evidence OFI=Opportunity for Improvement

Objective 4: Manage the quality and distribution of wildlife habitats and contribute to the conservation of biological diversity by developing and implementing stand- and landscape - level measures that promote habitat diversity and the conservation of forest plants and animals including aquatic fauna.

Criteria		Auditor Notes	FC	EXR	Gap	OFI
4.1	***Program participants shall have programs to promote biological diversity at stand - and landscape - scales.***	**Planning at landscape level is not complete, although compartment-level planning does benefit greatly from existing larger-scale resource analyses that have been conducted. Biological diversity is an important factor in all decisions, and good processes exist, again at stand and compartment levels. Opportunities at landscape level may be missed.**			**2**	
1	Program to promote the conservation of native biological diversity, including species, wildlife habitats, ecological or natural community types, and forest processes at the stand and landscape levels.	Long-standing involvement of wildlife and fisheries biologists in conservation at stand and species level. A good start has been made on landscape-scale planning (Lake Superior State Forest, Red Pine Plan) and for careful attention to forest processes (Mesic Conifer Guidelines, Red Pine Plan), but improvement is needed in planning at this scale. A process exists for identifying Biodiversity Management Areas (previously Potential Old Growth); to date 250,000 acres have been identified. OFI: Field staff require additional guidance on types of stands to nominate for Biodiversity Management Areas and management practices available once areas are designated.			**X**	**X**
2	Program to protect statutorily listed threatened and endangered species.	Generally excellent, but an OFI exists to provide more training and to involve field foresters in reconnaissance for T&E species during O.I.				**X**
3	Plans to locate and protect known sites associated with viable occurrences of critically imperiled and imperiled species and communities. Plans for protection may be developed independently or collaboratively, and may include Program Participant management, cooperation with other stakeholders, or use of easements, conservation land sales, exchanges or other conservation strategies.	Current Compartment Review Process (O.I.): Compartments are checked against Natural Heritage data during compartment planning, as per agreement with MNFI (Agreement for Natural Features Compartment Review of State Forest Management).	**X**			

FC=Indicators in place, conformance likely based on sample reviewed EXR=Exceeds Requirements Gap=Gap in program/evidence OFI=Opportunity for Improvement

4	Sets and implement criteria, as guided by regionally appropriate science for stand-level wildlife habitat elements to be retained (e.g., snags, mast trees, down woody debris, den trees, nest trees, etc.).	Prescriptions for each stand treated are developed with input from wildlife biologists. Biologists rely on O.I. to target their limited time, and the detail of non-timber information varies from unit to unit. Compartment review process always includes wildlife and fisheries biologists. Published criteria may exist as guidelines, but site-specific customization by trained personnel is a robust alternative, if it is consistently applied. Many sales have customized retention provisions, and all dead trees are retained in final harvests. This will be a focus area during the CA.	**X**			
5	Assess representation of cover types and habitats at the individual ownership level and, where data is available, across the landscape and incorporate findings from that assessment into planning and management activities.	A gap exists, because this work is in process but incomplete at large spatial seeks. Examples include the Lake Superior State Forest planning efforts and the Red Pine Study. These assessments may be considered in compartment-level planning, but on an ad hoc basis. One example concerns the issue of the retention of white pine in aspen stands. Increasing the amount of pine is an overall goal, but only recently have foresters been able to consistently retain pine trees in aspen clearcuts. Targets at larger scales (some unit managers seek unit-level goals) would inform stand-level decision-making.			**X**	
6	Past or current support of and participation in plans or programs for conserving old-growth forests in the region of ownership.	Natural areas program has identified many areas of state forests for protections. The process for designating Biodiversity Conservation Areas is under revision, with a need to update and provide direction for management or protection. See Indicator 1 above.	**X**			
7	Participation in programs and implementation of steps as appropriate to limit the introduction, impact and spread of invasive exotic plants and animals that directly threaten or are likely to threaten native plant and animal communities.	Significant efforts have been made to limit the spread of invasive exotics, with many FTPs completed.	**X**			

Criteria		Auditor Notes	FC	EXR	Gap	OFI
4.2	***Program participants shall apply knowledge gained through research, science, technology and field experience to manage wildlife habitat and contribute to the conservation of biological diversity.***	**MI DNR has an excellent system to enable use of disciplinary expertise at the field level. Fisheries and wildlife biologists, botanists, ecologists, and others are on staff or available for training, consultation, and direct input in to planning and management decisions.**	**X**			
1	Collection of information on critically imperiled and imperiled species and communities and other biodiversity-related data through forest inventory processes, mapping or participation in external programs such as NatureServe, state or provincial heritage programs or other credible systems. Such participation may include providing non-proprietary scientific information, time and assistance by staff, or in-kind or direct financial support	Compartments are checked against Natural Heritage data during compartment planning, as per agreement with MNFI.	**X**			
2	A methodology to incorporate research results and field applications of biodiversity and ecosystem research into forest management decisions.	This methodology is centered on the availability of fisheries and wildlife biologists in all units, with specialists available and routinely involved in assessments and in management decisions.	**X**			

Old 4.1.4.1.1	***Program participants* shall have *policies* to promote *habitat* diversity at *stand*- and *landscape*- levels.**
Old 4.1.4.1.2	***Program participants* shall, individually, through cooperative efforts or through AF&PA, provide funding for research to improve the science and understanding of wildlife management at *stand*- or *landscape*- levels, ecosystem functions and the *conservation* of *biological diversity*. Research elements incorporated into new Objective 9.**
Old 4.1.4.1.3	***Program participants* shall apply knowledge gained through research, science, technology and field experience to manage wildlife *habitat* and contribute to the *conservation* of *biological diversity*. Research elements incorporated into new Objective 9.**

Objective 5: Manage the visual impact of harvesting and other forest operations.

Criteria		Auditor Notes	FC	EXR	Gap	OFI
5.1	***Program Participants shall manage the impact of harvesting on visual quality.***	**MI DNR programs for visual management appear to be robust, resulting in excellent on-the-ground results.**		**X**		
1	Program to address visual quality management.	Compartment review process, timber sale process, and Visual Management Checklists comprise a robust program.		**X**		
2	Incorporation of aesthetic considerations in harvesting, road, landing design and management and other management activities where visual impacts are a concern.	A variety of methods to manage the appearance of timber harvests were observed, including varying unit size and placement, screening harvests from high use roads, retention of individual or groups of trees, and attention to complete utilization.		**X**		

Criteria		Auditor Notes	FC	EXR	Gap	OFI
5.2	***Program Participants shall manage the size, shape and placement of clearcut harvests.***	**The MI DNR program appears to meet the Performance Measure.**	X			
1	Average size of clearcut harvest areas does not exceed 120 acres, except when necessary to respond to forest health emergencies or other natural catastrophes.	Current average estimated at 30 acres. Field observations confirmed that clearcut sizes are modest, except in Kirtland's Warbler Management Area.	**X**			
2	Documentation through internal records of clearcut size and the process for calculating the average size.	Vegetation management system tracks information on cuts and their size.	**X**			

Criteria		Auditor Notes	FC	EXR	Gap	OFI
5.3	***Program Participants shall adopt a "green-up" requirement or alternative methods that provide for visual quality.***	**The O.I. and Compartment Review process, which includes a range of disciplinary expertise, provides for good visual quality.**	**X**			
1	Program implementing the "green-up" requirement.	Compartment review process, timber sale process, and Visual Management Checklists comprise a robust program. Foresters review adjacent stands before prescribing regeneration treatments.	**X**			
2	Harvest area tracking system to demonstrate compliance with the "green-up" requirement.	Vegetation management system tracks information on cuts and their size.	**X**			
3	Trees in clearcut harvest areas are at least 3 years old or 5 feet high at the desired level of stocking before adjacent areas are clearcut, or, as appropriate to address operational and economic considerations, an alternative method to reach the performance measure is utilized by the Program Participant.	Field observations confirmed that this requirement was met at all sites visited during scoping week.	**X**			

Criteria	
Old 4.1.5.1.1	***Program Participants*** **shall have policies to manage the impact of harvesting on *visual quality*.**
Old 4.1.5.1.2	***Program Participants*** **shall develop and adopt appropriate *policies* for managing the size, shape and placement of clearcut harvests.**
Old 4.1.5.1.3	***Program Participants*** **shall adopt a *green-up* requirement or other, more comprehensive methods that provide age, *habitat*, and aesthetic diversity.**
Old 4.1.5.1.4	***Program Participants*** **shall use harvest methods, age classes and judicious placement of harvest units to promote diversity across the forest *landscape*.**

Objective 6: Manage Program Participant lands of ecological, geologic, cultural or historic significance in a manner that recognizes their special qualities.

Criteria		Auditor Notes	FC	EXR	Gap	OFI
6.1	***Program Participants shall identify special sites and manage them in a manner appropriate for their unique features.***	**The identification and management of special sites is a clear strength of the MI DNR program.**		**X**		
1	Obtain existing natural heritage data and cooperate with those with expertise in identifying or selecting sites for protection of significant ecological, geologic, cultural or historic qualities.	Current Compartment Review Process (OI): Compartments are checked by the Bureau of History to see if any recorded archaeological sites exist within a compartment. Comments can be placed in the current OI (database) system reflecting the presence of an archaeological site. Similar process exists for the Natural Heritage data, as per agreement with MNFI agreement for Natural Features Compartment Review of State Forest Management (in FY 2004 for 2006 YOE for all RTE species); 250,000 acres of Potential Old Growth has been identified.		**X**		
2	Map, catalog, and manage existing sites appropriately.	2001 and 2002 Field Training Sessions: FMFA and Wildlife Staff received Archeology Training. Use of Web-Based Site Reporting Form (based on BOH Paper Form) allows DNR staff to easily report a site. Also have a Model of Prehistoric Site Potential.	**X**			

Objective 7: Promote the efficient use of forest resources.

Criteria		Auditor Notes	FC	EXR	Gap	OFI
7.1	***Program Participants shall employ appropriate forest harvesting technology, "in woods" manufacturing processes and practices to minimize waste and ensure efficient utilization of trees harvested, where consistent with other SFIS objectives.***	**Field observations confirmed excellent utilization practices at harvest sites visited.**		**X**		
1	1. Program or monitoring system to ensure efficient utilization which may include provisions to ensure, for example: a. Landings left clean with little waste; b. Residues distributed to add organic and nutrient value to future forests; c. Training or incentives in place to encourage loggers to enhance utilization; d. Foresters work closely with mill managers for better utilization of species and low grade material; e. Harvested material merchandized to ensure use for its most beneficial purpose; f. Markets developed for underutilized species and low-grade wood; g. Periodic inspections and reports noting utilization and product separation; or h. Alternative markets sought to ensure better utilization (e.g., energy markets)	The timber sale program is designed to ensure proper utilization, including strong contract language, regular supervision, and lump-sum sales that provide incentives for loggers to maximize utilization. Markets are strong for most grades and species. Observations during scoping were somewhat limited, and more time will be devoted to this during the full certification. Our limited sample confirmed: a, b, c, g, and h. Audit team will inquire into d, e, and f during full audit to ensure that the full range of utilization efforts of the MI DNR are considered. See also PM 2.3, Indicator 4 ("Some units with good chip markets did not have much woody debris").		**X**		

SFIS Objectives for Procurement

Objective 8. Procurement programs broaden the practice of sustainable forestry. Note: This Objective does not apply to Michigan DNR

Criteria	
	Procurement from sources within the United States and Canada (8.1 – 8.4 apply)
8.1	**Program Participants shall encourage landowners to reforest following harvest and to use Best Management Practices and to identify and protect important wildlife habitat elements, including critically imperiled and imperiled species and communities.**
8.2	**Program Participants shall encourage landowners to utilize the services of qualified resource professionals and qualified logging professionals in applying principles of sustainable forest management on their lands.**
8.3	**Program Participants shall clearly define and implement their own policies to ensure that mill inventories and procurement activities do not compromise adherence to the principles of Sustainable Forestry.**
8.4	**Program Participants shall monitor the effectiveness of efforts to promote reforestation and BMPs, using public, private, or both sources of information.**
	Procurement by manufacturing facilities enrolled in the SFI Program from sources outside the United States and Canada (8.5 and 8.6 apply)
8.5	**Program Participants shall ensure that their procurement programs support the principles of sustainable forestry including efforts to thwart illegal logging and promote conservation of biological diversity.**
8.6	**Program Participants shall encourage economically, environmentally and socially sound practices.**

Old-Objective 8: Broaden the practice of sustainable forestry by cooperating with forest landowners, wood producers, consulting foresters and Program Participants employees who have responsibility in wood procurement and landowner assistance programs.

	Criteria
Old 4.2.1.1.1	***Program Participants* shall encourage landowners to reforest following harvest and to use *Best Management Practices.***
Old 4.2.1.1.2	***Program Participants* shall work closely with state logging or *forestry* associations, or appropriate agencies and others in the *forestry* community, to foster improvement in the professionalism of wood producers.**
Old 4.2.1.1.3	***Program Participants* shall annually report relevant information.**
Old 4.2.1.1.4	***Program Participants* shall encourage landowners to utilize the services of *qualified resource professionals* and qualified logging professionals in applying *principles* of sustainable forest management on their lands.**
Old 4.2.1.1.5	***Program Participants* shall ensure that their commitment to the SFIS *Principles* is communicated throughout their organization.**
Old 4.2.1.1.6	***Program Participants* shall support and promote efforts by consulting foresters, state and federal agencies, state or local groups and programs like the American Tree Farm System, to educate and assist forest landowners, and to encourage them to apply *principles* of sustainable forest management.**
Old 4.2.1.1.7	***Program Participants* shall clearly define and implement their own policies to ensure that mill inventories and *procurement* practices do not compromise adherence to the Principles of Sustainable Forestry.**
Old 4.2.1.1.8	***Procurement practices* contribute to protection of legally designated conservation areas.**
Old 4.2.1.1.9	***Procurement policies* promote conservation of *biodiversity hotspots* and *major tropical wilderness areas.***

SFIS Objective for Forestry Research, Science and Technology (new)

Objective 9. Improve forestry research, science and technology upon which sound forest management decisions are based.

Criteria		Auditor Notes	FC	EXR	Gap	OFI
9.1	***Program Participants shall (individually, through cooperative efforts or through associations) provide funding, in addition to that generated through taxes and other mandatory assessments, for forest research to improve the health, productivity and management of all forest resources.***	**MI DNR has strong performance in funding and participating in research.**		**X**		
1	Current financial or in-kind support of research to address questions of relevance to the region(s) in which the Program Participant's operations occur. The research will include some or all of the following issues: a. forest health, productivity and ecosystem functions, b. increased efficiency of chemicals, reduced chemical use rates, and application of Integrated Pest Management, c. water quality, d. wildlife management at stand-and or landscape-levels, e. the conservation of biological diversity, and f. the effectiveness of BMPs. .	MI DNR research support appears to cover most of the listed issues, particularly a, c, d, and e. This research support is manifested in a number of ways, including funding for positions at Michigan State University (Perm research forester), support for university research such as Aspen-Larch coop, direct applied research on wildlife species, wildlife habitats, and resource use patterns, population modeling, and human dimensions, firefighting tools and equipment (Roscommon Equipment Center) and methods (Forest Fire Experiment Station); Habitat classification study; Michigan Tree Improvement Center;		**X**		

9.2	***9.2 Program Participants shall (individually, through cooperative efforts, or through associations) develop or use state, provincial or regional analyses in support of their sustainable forestry programs.***	**MI DNR leads or participates in a number of state or regional initiatives that tie closely to the department's sustainable forestry program. This is expected to be a clear strength of the program.**	**X**			
1	Participation, individually or through cooperative efforts or associations at the state, provincial or regional level, in the development or use of: a. regeneration assessments; b. growth-and-drain assessments; c. BMP implementation and compliance; and d. biodiversity conservation information for family forest owners.	Examples include a variety of outreach efforts through the service forestry program, the Red Pine Study, BBD Monitoring and Impact Analysis Plot Network; Wildlife Recovery Plans, Fisheries Basin Plans, and past BMP implementation/compliance studies, although none have been completed recently	**X**			

SFIS Objective for Training and Education (new)

Objective 10. Improve the practice of sustainable forest management by resource professionals, logging professionals, and contractors through appropriate training and education programs.

	Criteria	Auditor Notes	FC	EXR	Gap	OFI
10.1	***Program Participants shall require appropriate training of personnel and contractors so that they are competent to perform their responsibilities under the SFI Objectives and Performance Measures.***	**Although there is significant evidence of conformance, gaps exist in all four indicators relating to training. Training requirements follow a "management system" approach (inform, determine job requirements, train, track, adjust as necessary).**			**4**	
1	Written statement of commitment to the SFIS is communicated throughout the organization, particularly to mill and woodland managers, wood procurement staff and field foresters.	A commitment to certification was made by Michigan's 92nd Legislature in 2004 - Part 525: Sustainable Forestry on State Forestlands, Sect 52506 "The department shall seek and maintain third-party certification … of at least 1 credible nonprofit, nongovernmental certification program…". At the appropriate time a "statement of commitment to the SFIS" must be "communicated throughout the organization"			**X**	
2	Staff roles and responsibilities for achieving SFIS Objectives are assigned and fully understood.	Forest Certification Team charged with training, among other duties, is functioning within FMFU. Reviewed PPT "An Introduction to Michigan DNR Forest Certification Initiative"; was dev. &used in certification training designed for all staff of FMFM Division; most staff have received this training. Confirmed training records for staff in attendance at 18 locations (generally at Unit or District level). GAP: responsibilities for SFIS Objectives not explicitly assigned.			**X**	
3	Staff maintain education and training sufficient to their roles and responsibilities.	There are some problems with records for employees. Fire Officers- 6 week training was mentioned. 3 levels - entry, advanced, fire officer supervisor. Training for BMPs (1998: all Division foresters, technicians and forest fire officers) and Riparian Management (2004, all Division foresters) should meet most needs. Training in RTE/Heritage not widespread. GAP: All staff should have training and educations appropriate to their SFI responsibilities. A method is needed to identify appropriate training for each job classification and to ensure that training is up-to-date.			**X**	
4	Program Participants require contractors maintain education and training sufficient to their roles and responsibilities under the SFIS.	There is no procedure for tracking training of contractors, nor to define the level of training deemed "sufficient to their roles and responsibilities…"			**X**	

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Criteria		Auditor Notes	FC	EXR	Gap	OFI
10.2	***Program Participants shall work closely with state logging or forestry associations, or appropriate agencies and others in the forestry community, to foster improvement in the professionalism of wood producers.***	**Although the MI DNR may be involved in logger training independently, there is a gap in working with the SFI SIC in this area.**			**1**	
1	Participation in or support of SFI Implementation Committees to establish criteria and identify delivery mechanisms for wood producer training courses that include: a) awareness of sustainable forestry principles and the SFI program; b) Best Management Practices, including road construction, maintenance, and retirement, and streamside management; c) regeneration, forest resource conservation and aesthetics; d) awareness of responsibilities under the Endangered Species Act and other measures to protect wildlife habitat. e) logging safety; f) occupational Safety and Health Administration (OSHA) and wage and hour rules; g) transportation issues; h) business management; i) public policy and outreach.	DNR staff have begun to become involved in MI's SIC committee. MI DNR must demonstrate involvement in all appropriate activities of the Michigan SIC at a level commensurate with the size of its program.			**X**	

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SFIS Objective for Legal and Regulatory Compliance (New)

Objective 11. Commitment to comply with applicable federal, provincial, state or local forestry and related environmental laws and regulations.

Criteria		Auditor Notes	FC	EXR	Gap	OFI
11.1	***Program Participants shall take appropriate steps to comply with all applicable federal, provincial, state or local forestry and related environmental laws and regulations.***	**Although limited time was devoted to this issue during the week-long scoping, it appears that MI DNR meets this requirement.**	**X**			
1	Access to relevant laws and regulations in appropriate locations.	Copies of manuals of laws and regulations were available at field offices visited.	**X**			
2	System to achieve compliance with applicable federal, provincial, state or local laws and regulations	Regular training for staff, compartment review and timbersale review processes, and stated willingness to consult with MI DEQ (water regulators) comprise a system.	**X**			
4	Available regulatory action information demonstrates a commitment to legal compliance.	No time was available for independent confirmation of this indicator, but information supplied by MI DNR suggests that confirming this commitment should be relatively easy to accomplish during the full review.	**X**			
5	All applicable federal, and state and provincial regulations and international protocols followed for research and deployment of trees derived from genetic tree improvement and biotechnology.	NA	**NA**			

SFIS Objective for Public and Landowner Involvement in the Practice of Sustainable Forestry. (New)

[Note: Text from Objectives 8, 9 and 10 were combined and edited to develop this new Objective 12.]

Objective 12. Broaden the practice of sustainable forestry by encouraging the public and forestry community to participate in the commitment to sustainable forestry, and publicly report progress.

Criteria		Auditor Notes	FC	EXR	Gap	OFI
12.1	***Program Participants shall support and promote efforts by consulting foresters, state and federal agencies, state or local groups, professional societies, and programs like the American Tree Farm System®, to educate and assist forest landowners, and to encourage them to apply principles of sustainable forest management.***	**Education and assistance to forest landowners appears to be a clear strength of the MI DNR program. Once the SIC gap is closed a finding of "Exceeds the Standard" is likely.**			**1**	
1	Support for efforts of SFI Program Implementation Committees.	DNR staff have begun to become involved in MI's SIC committee. MI DNR must demonstrate involvement in all appropriate activities of the Michigan SIC at a level commensurate with the size of its program.			**X**	
4	Support for the development and distribution of educational materials, including information packets for use with forest landowners.	Service forestry program of MI DNR	**X**			
5	Support for the development and distribution of regional or statewide information materials that provide landowners with practical approaches (i.e. fact sheets) for considering biodiversity issues such as specific wildlife habitat, critically imperiled, imperiled, threatened, and endangered species.	Service forestry program of MI DNR Stewardship program	**X**			
6	Participate in efforts to support or promote conservation of working forests through voluntary market-based incentive programs (e.g., current use taxation programs, Forest Legacy, or conservation easements).	Support Tax reduction law; participation in the federal Forest Legacy Program.	**X**			
7	Program participants are knowledgeable about regional conservation planning and priority setting efforts that include a broad range of stakeholders and consider the results of these efforts in planning and management activities.	Eco-regional planning just getting started (see Gap under PM 4.1, 5). Foresters and planners consider other available regional assessments (e.g. the AuSable River Watershed Assessment ; Kirtland's Warbler Recovery Plan) in developing prescriptions and designing compartment plans. In terms of this Objective, MI DNR leadership or involvement in assessments, which typically include a broad range of stakeholders, appear sufficient to meet the indicator.	**X**			

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Criteria		Auditor Notes	FC	EXR	Gap	OFI
12.2	***Program Participants shall support and promote, at the state, provincial or other appropriate levels, mechanisms for public outreach, education and involvement related to forest management.***	**Although a Gap exists (SIC involvement) overall the program has clear strengths in outreach and public involvement.**		**X**	**1**	
1	Support for the SFI Implementation Committee program to address outreach, education & technical assistance (e.g., 800 numbers, environmental public sector technical assistance programs).	DNR staff have begun to become involved in MI's SIC committee. MI DNR must demonstrate involvement in all appropriate activities of the Michigan SIC at a level commensurate with the size of its program.			**X**	
2	Provide periodic educational opportunities promoting sustainable forestry such as: a. Conducting field tours, seminars or workshops; b. Conducting educational trips; c. Providing self-guided forest management trails; d. Publishing articles, educational pamphlets or newsletters; and e. Supporting state, provincial and local forestry organization and soil & water conservation districts	Service forestry program 100% of service forestry program comes from S.F. timbersales receipts. 4 specialists, 3 analysts, 7 central office staff.		**X**		
3	Provide recreation opportunities to the public, where consistent with forest management objectives.	Includes an extensive array of recreation opportunities, including various trails, campgrounds, and water access. Includes: ORV, snowmobile, hiking, water access, rails to trails. It comprises the largest public land base for dispersed recreation east of the Mississippi River. Significant efforts are made to provide areas accessible to handicapped users (ADA guidelines are being used for all sites being upgraded).		**X**		

Criteria		Auditor Notes	FC	EXR	Gap	OFI
12.3	***Program Participants shall encourage economically, environmentally and socially sound practices.***	**NA – US operations only**	**NA**			
1	Process to assess whether Program Participants' activities take place in countries where laws addressing the following interests are in place, are enforced, and include independent legal processes to resolve disputes, as reported by a credible institution recognized by the Sustainable Forestry Board: a. Worker Health & Safety; b. Fair Labor Practices c. Indigenous Peoples Rights; d. Anti-Discrimination and Anti-Harassment Measures; e. Wage and Hour Regulations	NA				

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2	Programs to support and promote protection of employee and community interests, if assessment of country in which Program Participant is operating shows they are not adequately addressed by law.					

Criteria		Auditor Notes	FC	EXR	Gap	OFI
12.4	***Program Participants shall establish, at the state, provincial, or other appropriate levels, procedures to address concerns raised by loggers, consulting foresters, employees, the public or Program Participants regarding practices that appear to be inconsistent with the SFIS Principles and Objectives.***	**MI DNR personnel have a strong commitment to public service, including responding to public concerns. Gaps exist for support for the SIC efforts, and for MI DNR-specific efforts, involvi ng complaints about forestry practices.**			**2**	
1	Support for SFI Implementation Committee efforts (800 numbers and other efforts) to address concerns raised by loggers, consulting foresters, employees, Program Participants and the public.	DNR staff have begun to become involved in MI's SIC committee. MI DNR must demonstrate involvement in all appropriate activities of the Michigan SIC at a level commensurate with the size of its program.			**X**	
2	Process established to receive and respond to public inquiries.	Ad hoc process was described by some unit managers. There appears to be no central clearinghouse for complaints about forest practices			**X**	

12.5	***Program Participants shall report annually to the SFI program on their compliance with the SFIS.***	**These are technical gaps, as the MI DNR has yet to receive the annual survey.**			**2**	
1	Record keeping tracks all the categories of information needed for annual progress reports.	T.S. program Veg. Mgmt system planting/regeneration FTB database	**X**			
2	Prompt response to the annual SFI survey questionnaire.	MI DNR has yet to receive a survey.			**X**	
3	Copies of past reports maintained to document progress and improvements to demonstrate conformance to the SFIS.	MI DNR has yet to receive a survey.			**X**	

Criteria		Auditor Notes	FC	EXR	Gap	OFI
12.6	***Program Participants with management activities on public lands shall participate in the development and support of public land planning and management processes.***	**MI DNR, as the public land agency, is responsible for state land planning and management. The department participates, by way of providing comments, in federal land planning.**	**X**			
1	Involvement in public land planning and management activities with appropriate governmental entities and the public.	Collaborative, FWS, USFS, NPS, FIA	**X**			
2	Contact with local stakeholders over forest management issues through State, Provincial, Federal, or independent collaboration.	Open House and Compartment Review programs at each unit comprise a robust system for enabling contact with local stakeholders. Unit managers interviewed confirmed active and regular efforts to maintain communications with key stakeholders.	**X**			
12.7	***Program Participants with management activities on public land shall recognize that the involvement of affected indigenous peoples in forest management is appropriate.***	**MI DNR appears to be paying appropriate attention to the involvement of indigenous peoples, and their rights and traditions of forest use.**	**X**			
1	A program in place that includes dialogue with affected indigenous peoples, to: a. understand and respect Traditional Forest Related Knowledge as proprietary information b. identify and protect sites of cultural, spiritual or historical significance c. address the sustainable use of non-timber forest products of value to indigenous peoples.	A. Locked Comments in OI (database with access control); Jim Ekdahl, DNR Upper Peninsula Field Deputy is the department's statewide coordinator for tribal affairs. DNR devotes significant resources to tribal relationships, including use of historic researchers (contract), dedicated staff attorneys, and representative from all key agencies B. Michigan Natural features Inventory (MNFI) and History and Arts Libraries (HAL, the MI version of s.h.p.o.) are provided information on all proposed treatments. C. Tribal members who wish to gather medicinal plants need a permit, Conservation Officers are trained in protocols; officers write reports on incidents, which are resolved at higher levels by most experienced personnel.	**X**			
2	A program demonstrating the respectful treatment of the legal rights of forest dependent indigenous peoples.	NA- indigenous people not forest dependent. MI DNR has a strong program of paying careful attention to all tribal rights.	**X**			

Old Objective 9: Publicly report Program Participants progress in fulfilling their commitment to sustainable forestry.

	Criteria
4.3.1.1.1	***Program Participants*** **shall report annually to the SFI program on their compliance with the SFIS.**

Old Objective 10: Provide opportunities for the public and the forestry community to participate in the commitment to sustainable forestry.

	Criteria
4.3.2.1.1	***Program Participants*** **shall support and promote, at the state or other appropriate levels, mechanisms for public outreach, education and involvement related to forest management.**
4.3.2.1.2	***Program Participants*** **shall establish, at the state, or other appropriate levels, procedures to address concerns raised by loggers, consulting *foresters, employees, the public or Program* Participants regarding practices that appear to be inconsistent with the SFIS *Principles* and Objectives.**

SFIS Objective for Management Review and Continual Improvement

Objective 13. Promote continual improvement in the practice of sustainable forestry and monitor, measure and report performance in achieving the commitment to sustainable forestry.

Criteria		Auditor Notes	FC	EXR	Gap	OFI
13.	***Program Participants shall establish a management review system to examine findings and progress in implementing the SFI Standard program and policies, to make appropriate improvements in programs policies, and to inform their employees of changes.***	**Many aspects of this Performance Measure are in place, but do not fully meet the overall requirements. Evidence of a functioning system might include: a written description of the system that includes all required elements; minutes of management review meetings; or changes in the system that followed logically from information gathered and reviewed.**			**3**	
1	A system to review commitments, programs policies and procedures to evaluate effectiveness.	Aspects of a review system currently exist. For example, Forest Operations Reviews involve people from different units who check other units. Past inventory and T.S.			**X**	
2	A system for collecting, reviewing and reporting information to management regarding progress in achieving SFI Objectives and Performance Measures.	Certification Implementation team efforts fall under this indicator. The management reporting system for SFI issues (subset of above) is not yet complete. SFI-specific performance information is to be "collect(ed), review(ed), and report(ed)".			**X**	
3	Management annually reviews progress and determines changes and improvements necessary to continually improve their achieving SFI conformance.	Formal senior management review is required annually to review information collected under Indicators 1 and 2 above, and to make necessary changes and improvements. Response to this Gap Analysis report can comprise a portion of this management review.			**X**	

FC=Indicators in place, conformance likely based on sample reviewed EXR=Exceeds Requirements Gap=Gap in program/evidence OFI=Opportunity for Improvement

Old Objective 11: Promote continual improvement in the practice of sustainable forestry and monitor, measure and report performance in achieving the commitment to sustainable forestry.

Criteria	
4.4.4.1.1	***Program Participants* shall establish a management review system to examine findings and progress in implementing the SFI program and *policies*, to make appropriate improvements in *policies*, and to inform their employees of changes.**
CI 1	A system to review commitments, *policies* and procedures to evaluate effectiveness.
CI 2	A system for collecting, reviewing and reporting information to senior management regarding progress in achieving SFI *Objectives* and *Performance Measures*.
CI 3	Senior management annually reviews progress and determines what changes and improvements are necessary to continue achieving SFI conformance.